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ABSTRACT

Five papers on bilingualism are presented. "Giving Transfer a Boost--Describing Transfer Variation in Learners' Interlanguage Performance" by Claus Faerch suggests, outlines, and illustrates a heuristic principle for describing the result of positive transfer from one language to another, based on the assumption that learners maximize transfer in both learning and communication. In "Semantic Over-Extension and Lexical Over-Use in Immigrant Swedish" by Ulla-Britt Kotsinas, examples are given of these phenomena in a variety of grammatical situations. "The Relation Between Code Differentiation and Language Mixing in Bilingual Three-to Four-Year-Old Children" by Lenore Arnberg and Peter W. Arnberg, reports a study whose results support a one-system theory of bilingual language acquisition. "The Problem of Divergence in Translation--A Model for Disambiguation" by Jennifer Draskau outlines and discusses a procedure for translators to use to handle problems occurring when one word in the language to be translated can be used in more than one sense in the target language. In "The Reception of English Loans in Sweden" by Magnus Ljung, ten types of English loans are discussed and ranked, the influence of social factors in loaning is examined, age is proposed as the most important determinant of loan use, and some regional differences are illustrated. (MSE)

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Scandinavian Working Papers on BILINGUALISM

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GIVING TRANSFER A BOOST - DESCRIBING TRANSFER VARIATION IN LEARNERS' INTERLANGUAGE PERFORMANCE*

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Transfer studies have to develop means of describing the result of positive transfer in open-ended learner language data. A suggestion is made how this may be achieved, termed the "transfer maximalization principle". This heuristic principle operates according to the assumption that learners maximalize the procedure of transfer in both learning and communication. The paper demonstrates the operation of the principle within two areas: determiner usage and subject - verb inversion. The description of these areas, made on the basis of the transfer maximalization principle, demonstrate considerable transfer variation in the data, especially so across different types of task.

1. Introduction

The function of the native language (L1) in second or foreign language (L2) learning[1] has been a constant matter for contention in research oriented towards L2 learning. Results have been published that purport to show the extent to which errors in learners' interlanguage (IL) production can be accounted for in terms of L1 transfer (Dušková 1969, Richards 1971, George 1972, Dulay/Burt 1974, Arabski 1979; see also C. James 1980:146). Transfer has been related to variables such as linguistic level (Dušková 1969, George 1972, Færch 1977b, Arabski 1979), proficiency level of the learners (Taylor 1975, Dommergues/Lane 1976, Arabski 1979, Sheen 1980, Zobl 1980) or mode of production (Dickerson 1975). Particularly important is a series of studies the aim of which has been to explore the notion of 'transferability' and to establish constraints on transfer (cf Kellerman's discussion of the learner's 'psychotypology' and 'transferability' (forthcoming), Eckman's "markedness differential hypothesis" (1977) and Andersen's "transfer to somewhere" principle (1981), based on Zobl 1980).

Simplifying somewhat, research methods adopted in transfer studies have been of two kinds:

(1) analyses of open-ended learner language data (performance data) in

which errors have been identified and analysed (Dušková 1969, Ravem 1974, Arabski 1979, Kasper 1981)

(2) analyses of more controlled learner language data, elicited in experimental situations with the specific objective of testing previously formulated hypotheses (Kellerman 1977, 1978, Jordens 1977, Jordens/Kellerman 1981, Kohn 1982).

The analysis of open-ended data allows the researcher to draw conclusions about transfer in different language use situations and of detecting patterns in transfer across linguistic phenomena which are likely to be atomized in experimental data. The prerequisite for this is that the researcher systematically and in a non-arbitrary way is able to relate product-level phenomena to underlying learning/production processes. This raises the important question whether product-level phenomena are ideally accounted for in terms of singular or multiple processes. If singular processes are preferred, problems in classification are viewed as problems of ambiguous classification (cf the discussion of "alternative Ursachenbeschreibung" in Raabe 1979, furthermore Kielhöfer/Börner 1979, Kasper 1981). The problem resolves itself if multiple processes are made use of, as proposed by a number of researchers (James 1977, Jordens 1977, Raabe 1979, Zobl 1980, Sheen 1980, Kasper 1981). Common to both approaches is that the product-level phenomena to be accounted for are typically incorrect or inappropriate, measured against a L2 norm.[2] If analysts take non-erroneous aspects of performance into consideration, this is usually in order to describe the proportion of correct to incorrect items within a specific area of language (eg Gnacia 1974, Zydatiss 1970, Kasper 1981) and not because the non-erroneous items are sought explained in terms of underlying psychological processes.

Relating transfer to non-erroneous areas of learners' IL is easier with experimental data, as is illustrated by Kellerman's studies, in which the researcher typically asks the informant to decide which of a range of L1 expressions containing one and the same lexical item (eg the Dutch equivalents of "break a stick", "break a promise") can be used in L2 (Kellerman 1977). One serious limitation of this approach is that it is difficult to predict on the basis of such data alone how learners will transfer in specific communicative situations under various degrees of stress and with varying possibilities for consciously monitoring transfer.[3] Furthermore, it is difficult to predict what type(s) of transfer will be involved in a certain communicative event. And as we shall presently show, it is a gross simplification to talk of one type of transfer underlying IL performance.

The above discussion provides the necessary background to the following assumptions:

- it is essential that analyses of open-ended data are included in transfer research, as there is evidence that both the amount of transfer and the type of transfer vary in different types of communicative situation
- transfer analyses of open-ended data have to extend their domain of application from errors to performance in toto.

In this paper I want to suggest that a methodologically satisfactory way of handling the problem of ambiguous or multiple processes underlying performance is to base one's analysis on the assumption that L1 transfer is maximally utilized by learners. I shall refer to this as the T-maximalization principle. The T-maximalization principle will be illustrated, if not justified, by an analysis of two syntactic areas as reflected in the oral and written IL performance of Danish learners of English. But before I proceed to these analyses, three preliminaries are needed:

(1) A description of the T-maximalization principle
(2) A necessarily sketchy outline of different types of transfer
(3) A characterization of the data used in the analysis.

2. The T-maximalization principle

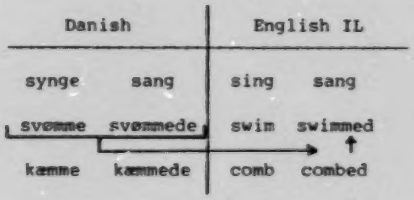
First a conceptual clarification: transfer is here used with reference to a procedure (cf Færch/Kasper 1983a) that cuts across different linguistic codes. For this reason code-shifted speech, ie speech produced by a learner who intentionally shifts from one code (eg IL) to another (eg L1) does not reflect a transfer procedure. A further consequence is that transfer (in this sense of the term) does not operate within linguistic systems: the process of extending an already existing IL rule/item to a new textual or situational context will be referred to in the following as generalisation[4] (cf the discussion of the relationship between transfer and generalization in Færch/Kasper 1983b).

Transfer can operate between any two codes and in various directions: from the L1 to an IL code, from one IL code to another, from an IL code and back to the L1. In the following, transfer will be illustrated as a procedure relating L1 (Danish) to the English IL used by Danish learners.

A final consequence of the cross-code characteristic of transfer is that in a transfer context, learners activate two linguistic systems simultaneously

(otherwise, the situation would be one of code-shifting). This means that transfer from L1 is necessarily transfer within certain linguistic levels: while transferring at one or more linguistic levels, the learner simultaneously produces speech in accordance with his IL at other linguistic levels. An example of this is when a learner uses an IL syntactic structure, lexicalized in accordance with his IL vocabulary, but pronounces this in a way which is influenced by his L1. Or when a learner transfers a syntactic structure from his L1 and lexicalizes it with IL words. For a further discussion of this, see Færch/Kasper 1983a.

The transfer procedure may result in the emergence of a structure which is not part of the learner's IL, eg the word ['pəIpskɔ:v] for 'waste-paper basket', transferred from Danish papirkurv. Or the transfer procedure may affect the distribution of a structure already present in the learner's IL. The latter can be exemplified by learners extending a regular declensional IL suffix to a specific verb (generalisation) because the cognate verb in their L1 is regularly declined (transfer):



(cf. J. James 1977, Færch/Kasper 1983b:47 for a further discussion of so-called "inter-intralingual transfer").

Transfer of the first-mentioned type (the ['pəIpskɔ:v] example) can be characterized as a singular process, and will be referred to in the following as exocentric transfer. Transfer of the last-mentioned type directly interacts with generalization, which means that the product is brought about by multiple processes. This type of transfer is termed endocentric transfer in the following.[5]

Fig. 1 summarizes the various types of processes mentioned above.

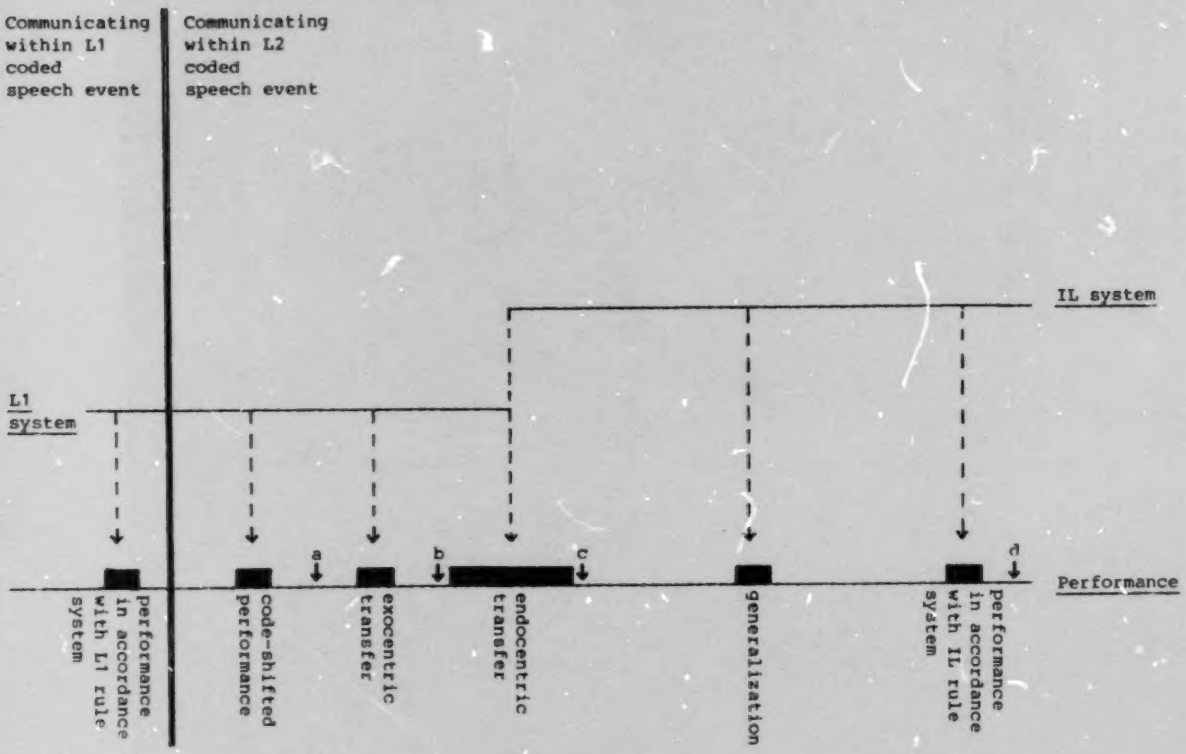


Figure 1: Performance variation as a result of different ways of utilizing L1 and IL

The "T-maximalization principle" for the analysis of open-ended IL performance data aims at assessing how much of the data can be accounted for if one assumes that transfer from L1 is maximally utilized by learners in L2 learning and communication. As illustrated by the diagramme, the T-maximalization principle identifies the area between a and c, without specifying whether performance is brought about by singular or by multiple procedures.

Let us now consider what the logical possibilities are for analysing IL performance in terms of transfer if we adopt the T-maximalization principle (fig. 2a).

1	$X_{IL} = X_{L2} = X_{L1}$	$X_{IL} = X_{L2} \neq X_{L1}$
2	$X_{IL} \neq X_{L2} = X_{L1}$	$X_{IL} \neq X_{L2} \neq X_{L1}$
	L1 transfer	other underlying processes

Fig. 2a: IL performance, compared to L1 and L2

Whenever it is possible to argue that $X_{IL} = X_{L1}$ formally, irrespective of whether X_{IL} is correct or not in terms of the L2, and irrespective of whether X_{IL} could also have been explained as being caused by generalization, we classify X_{IL} as transfer based. This is what is found in the left-hand side of the diagramme. At the right-hand side, ie in situations in which it is impossible to posit a formal link between X_{IL} and X_{L1}, we have to posit other underlying causes like eg generalization or learning as a result of direct teaching.

The four possibilities listed in the diagramme refer to ways of accounting for IL performance data. A different issue is whether we can find instances of L2 items which do not occur in the learner's IL:

3 $X_{L2} = X_{L1}$, $\emptyset_{IL}$

4 $X_{L2} \neq X_{L1}$, $\emptyset_{IL}$

Fig. 2b: (same as 2a)

The most important difference between 3 and 4 as seen from a transfer point of view is that 3 exemplifies a situation in which the learner avoids to transfer, although transfer would have lead to an appropriate result. 4 is uninteresting from a transfer point of view.

The areas selected for analysis below illustrate 1 and 2, ie cases of IL performance which are either correct or erroneous relative to an L2 norm. 3 and 4, which presuppose a contrastive analysis of L1 and L2 outside areas represented in the IL data, will not be considered.

The T-maximalization principle is based on the hypothesis that learners do not learn those parts of the L2 system which are comparable to the L1 system from scratch. But the T-maximalization principle does not help us decide how learners come to know in the first place what areas of L1 can be transferred. This is a limitation not due to the T-maximalization principle itself, however, but rather to the open-ended character of the data on which the principle works.

3. Types of transfer in FL learning and communication

L1 transfer is a procedure which relates L1 knowledge to either the learner's IL-specific knowledge or to overt linguistic behaviour within a framework of IL communication.[6] In the first-mentioned case, transfer could be described as relevant for L2 learning/acquisition. In the second case, transfer is a directly relevant procedure in speech production. Although we have to consider the possibility of transfer operating more or less simultaneously within the areas of language learning and language use it is heuristically useful to distinguish between these two major types of transfer.

Within the area of speech production, it is feasible to distinguish between (at least) three types of transfer:

- transfer as a communication strategy
- automatic transfer
- L1 based IL speech production.

The following offers a very crude characterization of these four types of transfer. For a more detailed discussion, see Færch/Kasper 1983a.

3.1 Transfer as a learning procedure

Learners draw on various knowledge sources, in addition to drawing directly on linguistic input, when they establish hypotheses about the foreign language. One of these is the learner's L1 knowledge. To the extent the learner obtains positive feedback and integrates his L1 based hypotheses into his IL system as rules, the subsequent activation of such rules in speech production will exhibit what we may refer to as "indirect" transfer. This is the area, however, where a difference between transfer as a learning procedure and transfer as a communication procedure is very difficult to maintain as the learner may obviously try to obtain feedback by using the hypothetical item in production. A further discussion of this is contained in Færch/Kasper 1980, Færch/Haastrup/Phillipson 1983.

3.2 Transfer as a communication strategy

The learner operates on the basis of his IL system but runs into difficulties due to inadequate IL resources and solves his problems by relying on his L1. In this case, one could characterize the performance as brought about by an L1 based communication strategy (cf Færch/Kasper 1983b:46f). The use of communication strategies is understood to involve a high degree of cognitive control.

3.3 Automatic transfer

The learner has at his disposal the relevant IL knowledge, but due to low cognitive control, eg because of high processing load, a highly automatized plan from the learner's L1 becomes activated, instead of the appropriate, but less automatized IL plan. This type of transfer is discussed in some detail in Færch/Kasper 1983a.

3.4 L1 based IL speech production

This type of transfer is based on the assumption that the learner's IL knowledge is not organized as a comprehensive, self-contained system but as IL specific features, rules, items etc. which are attached to the L1 system at various points. When communicating in the L2, the learner draws on his IL knowledge within certain areas, but otherwise bases his speech production on those parts of his L1 which are stored as being neutral relative to L1 and L2.

A hypothetical example would be a beginning learner who knows that English sounds different from Danish and who knows some English words and phrases, but who is not yet aware of English syntax being different from Danish syntax, and who therefore freely models his IL speech on Danish syntactic structures. These syntactic structures, some of which will be correct in terms of English grammar, would obviously not be said to reflect transfer had they appeared in the learner's L1 performance. The only reason for characterizing them as brought about by a transfer procedure is that they are activated in a situation in which the learner is trying to speak a foreign language (see further Færch/Kasper 1983a).

Each of these 4 types of transfer deserves close investigation, as they are likely to yield important, additional information about the ways in which IL knowledge is established, stored, retrieved and converted into IL speech. For this reason, it is essential that both theoretical and empirical studies on transfer state explicitly which type(s) of transfer the study is concerned with, and, if data are reported on, that these are homogeneous in terms of transfer type and that sufficient information about the data is provided so that one can reconstruct the situation in which the data were collected.

4. Description of data used in present study

The data reported on below were collected by the PIF project, Copenhagen.[7] Only a very small subset of the data was analysed for the specific purpose of this study.

Population: 12 learners from grade 8, being in their 4th year of learning English.

12 learners from grade 12, being in their 8th or 9th year of learning English.

Learners were picked at random from schools in the Copenhagen area in 1977.

Data: Data were collected from the learners at the University of Copenhagen over two days. Of the 5 open-ended tasks performed by each learner, three were used for the present analysis:

(a) Oral description of film, recorded in language laboratory. The film lasted 5 minutes and was shown twice. The learners were asked to imagine that they were telling a friend about the film they had just seen. No written notes were allowed.

(b) Written description of same film, completed after the oral description. No reference books were allowed.

(c) Essay on violence. The learners were asked to write about this topic to their school magazine or to a newspaper, and were given a collection of pictures depicting various sorts of violence as a starter. No reference books were allowed.

5. Analysis of determiner usage

Danish and English both mark the NP for the type of reference performed by means of the NP: definite/indefinite, specific/generic, singular/plural. There exists considerable formal overlap between the two languages with respect to how these communicative features are expressed: number is obligatorily expressed by suffix, definite/indefinite and specific/generic reference is expressed by preposed articles, quantifiers and other determiners. However, there exists a striking difference between Danish and English in that in Danish definite reference is in certain cases obligatorily and in others optionally expressed by an enclitic morpheme following the singular or the plural form of the noun. Furthermore, Danish and English differ slightly with respect to how generic reference is expressed, whereas the rules governing specific reference are identical. As for generic reference, this can be performed in Danish by both indefinite and definite forms of the NP, which means that generic reference to uncountables both take the form of indefinite and definite singular and to countables the form of indefinite and definite singular or plural. (This is an oversimplified description, which will have to be somewhat modified below in the actual analysis of the learners' performance. For other descriptions, cf Færch 1975 and 1977a, Davidsen-Nielsen/Færch/Harder 1982:61ff).

If learners produced their NP's on the basis of Danish rules for NP formation, supplemented by IL specific lexicalization, this would lead to correct English NP's in all cases of specific reference where definiteness was not expressed enclitically in Danish. With enclitically marked NP's there would theoretically exist the two possibilities (1) that the definiteness morpheme becomes realized by pre-posed determiner instead of by suffix, or (2) that the learner reduces the definiteness marking by producing an unmarked NP. As for generic reference, IL production based on Danish rules for NP formation would lead to correct English NP's in many, though not in all cases. Here one would expect erroneously used determiners with singular uncountables and with plural countables.

The analysis of NP's was restricted to the essays written by the two groups of learners. All NP's in the two text groups had previously been identified, classified and counted on the basis of a typology of 90 NP types (Grindsted/ Rechnitzer 1982). As this analysis did not differentiate between different types of determiners, it was necessary to calculate how many of the NP's which were non-pronominal and which did not contain a proper noun as head were realized by the definite article, the indefinite articles, other predeterminers or by Ø. Furthermore, it was necessary to calculate the proportion of NP's containing errors in determiner usage relative to the total number of NP's. The results of these quantitative analyses are presented in table 1.

TABLE 1. Frequency of different NP types in text samples

NP's containing common nouns	1423	2472
NP's containing the:	242 (17.0%)	482 (19.5%)
NP's containing a(n):	147 (10.3%)	229 (9.3%)
NP's containing other predet.:	150 (10.5%)	280 (11.3%)
NP's containing Ø determiner:	884 (62.1%)	991 (59.9%)
NP's containing error in determiner:	34 (2.4%)	42 (1.7%)
	Grade 8	Grade 12

An analysis of the non-erroneous NP's revealed that at both levels nearly all NP's could have been produced on the basis of Danish rules for NP formation (with enclitic marking being realized by pre-posed determiner). However, there was a slightly higher number of non-erroneous NP's at grade 12 which could not have been modelled on L1 rules than at grade 8. Typically, cases at grade 8 of non-transferable NP's varied with NP's which could have been modelled on L1 rules. The following exemplifies this variation:

I don't now how we are going to hold voilence down in the school ...
Now the voilence isn't such a big problem ...

Both occurrences of violence would have to be expressed by definite reference in Danish (which illustrates the over-simplicity of the rules we established earlier for generic reference in Danish: there are certain cases in which either definite or indefinite NP's are obligatory for expressing generic reference). What we see is therefore the emergence of speech production which is undoubtedly IL specific: at grade 8 there seems to be either variation between L1 and IL production or between alternative IL rules, one of which reflects Danish ("indirect transfer").

The error analysis revealed three major error types:

1 IL determiner where no determiner should have been used according to L2
2 IL Ø determiner where determiner should have been used according to L2
3 Wrong determiner in situation where other determiner should have been used according to L2.

The overall results from the error analysis were as indicated in table 2.

TABLE 2. Frequency of error types 1-3 levels 1 and 2

	Level 1		Level 2	
	E	%	E	%
Error type 1	16	47	30	71
Error type 2	7	21	5	12
Error type 3	11	32	7	17
E 1-3	34	100	42	100

Of the three error types, types 1 and 2 are of immediate interest here. In tables 3 and 4 each of the types has been further specified with respect to the formally equivalent Danish structures.

TABLE 3. Frequency of subcategories of error type 1

L1	Grade 8	Grade 12	
enclitic morpheme	63%	37%	⇒ IL determiner (L2 Ø)
predeterminer	6%	23%	
predeterminer or Ø	-	10%	
Ø	31%	30%	
E	16	30	

TABLE 4. Frequency of subcategories of error type 2

L1	Level 1	Level 2	
enclitic morpheme	43%	-	⇒ IL Ø (L2 determiner)
predeterminer	-	40%	
Ø	57%	60%	
E	7	5	

Although the figures are very low, error types 1 and 2 clearly indicate that more errors are caused by learners choosing a determiner in their IL when the correct L2 would have none (type 1) than the opposite (type 2). Many of the errors can be accounted for as at least formally due to transfer from L1: enclitic/predeterminer/predeterminer or Ø → IL determiner (type 1) and Ø → IL Ø (type 2). More interesting, though, are the cases of L1 Ø → IL determiner and L1 enclitic/predeterminer → IL Ø, as these cannot possibly have been brought about as a result of L1 based speech production. It is noticable that such a relatively high number of errors both at grades 8 and 12 have been caused by learners expressing a feature in their IL which would not be expressed in the formally equivalent L1 NP. The generalization process, as reflected in errors, seems to be stronger with respect to generalizing the IL formal expression of the NP feature than with generalizing a lack of expression.

6. Analysis of syntactically determined inversion

In Danish, subject - verb inversion is obligatory whenever the subject is preceded by a constituent other than a conjunction. As English uses syntactically determined inversion to a much lesser extent, IL based production based on Danish rules for inversion would mostly result in erroneous structures (as for example "yesterday saw I a strange film").

As a data basis for an analysis of clauses initiated by constituents other than subject NP's and conjunctions were chosen both the oral and the written film descriptions as well as the essays (on violence) from the groups of learners at grade 8. This allows us to study the possible impact of the variable 'mode of production' on transfer. The main results of this analysis are contained in tables 5 and 6.

TABLE 5.

	Oral film description	Written film descr.	Essays
Number of sentences in which syntactically determined inversion would be obligatory in Danish	34	65	84
Number of sentences with syntactically determined inversion, erroneous in English	0	6 = 9.2%	14 = 16.7%
Number of sentences with syntactically determined inversion, correct in English	0	0	0
Number of sentences with non-inverted syntactically determined word order	34 = 100%	59 = 90.8%	70 = 83.3%

TABLE 6.

Number of students who use inversion only in the relevant syntactic context	0	0	1
Number of students who use inversion or non-inversion variably in relevant syntactic context	0	4	6
Number of students who use non-inversion exclusively in relevant syntactic context	12	8	5

Table 5 demonstrates a systematic difference between the three text types. In the oral film description none of the 34 sentences which would have contained inverted word order in Danish showed inversion in English. 9.2% of the comparable sentences in the written film description had inversion (erroneously). And as many as 16.7% of possible candidates for transferred inversion in the essays exhibited inverted word order. Table 6 expresses variation within the group of learners, and shows whether learners transfer categorically, variably, or not at all.

7. Discussion of results

In the NP analysis, more than 90% of the NP's could have been produced on the basis of L1 rules (Danish). In the analysis of subject - verb inversion, none of the 34 recorded adverbial-initiated clauses in the oral film description exhibits transfer, whereas the figures for the written film description and for the essays were 9.2% and 16.7%, respectively. 5 of the 12 learners never use syntactically determined inversion in any of the text types, 6 students exhibit variation in one and the same text type (essays), and 1 learner makes use of inversion exclusively in the essay and non-inversion exclusively in the two other text types. A first observation to make is therefore that it makes as much sense to calculate a means for syntactic transfer, based on figures obtained for the NP analysis and for the analysis of S - V inversion, as it would to calculate a means for the size of quadrupeds based on the average size of mice and elephants: the explanatory power of a transfer paradigm is in no way an absolute force, it is crucially dependent on variables such as type of linguistic phenomenon, mode of production and possibly individual learning styles which determine to what extent learners base hypotheses on L1 knowledge. In addition to these, another all-important variable is clearly the relationship between the L1 and the L2. The results reported here for the NP differ drastically from what Arabski reports for Polish learners of English (1979), the simple reason being that the possibilities for positive transfer from Polish to English determiner usage is virtually non-existent. Similar results have been reported by Oller and Redding (1971).

It is one thing to determine that a certain % of IL performance could have been brought about by transfer, a different, and much more complicated, problem to decide (1) whether transfer has in fact been involved as an efficient cause, and (2) <u>if</u> we decide that transfer has been involved, <u>which type</u> of

transfer we then posit. Furthermore, there is the crucial question of how the procedure of transfer interacts with other learning/communication procedures. As we are dealing with a formal learning situation there exists the theoretical possibility that the learners in question have "learned" the rules for determiner usage as new rules during the very first stages of learning English, without drawing on L1 transfer, and that this rule has become highly automatized. How we decide between these two possible explanations I do not know - learners' performance data does not help us very much. Analyses of teaching input and introspective techniques reveal that there is normally no explicit formulation of rules for determiner usage in teaching materials used at beginners' level in Denmark, and that learners are generally unaware of the functioning of the enclitic determiner in Danish. There is therefore no compelling reason why we should not assume that the determiner usage in the learners' IL performance is a product of an underlying, direct or indirect, transfer procedure. The subsequent question is then: which of the 4 types of transfer described in section 3 do we posit as the most likely type in accounting for the data?

It is fairly safe to conclude that the IL NP's have not been brought about by communication strategies, as there is no indication that learners are consciously aware of problems within this area. Automatic transfer implies the existence of competing plans in L1 and L2, and is therefore not a very economical way of accounting for positive transfer in general. Of the two remaining types of transfer, it is perhaps a matter of taste whether we say that they are instances of L1 based IL production or that they are produced on the basis of IL specific rules which have previously been established via the L1 by means of a transfer procedure. The first possibility would be most in line with computer simulations of speech production (cf Sharwood Smith 1979), whereas the second would be preferred by advocates of the existence of an autonomous IL system.

In cases of non-transfer within the NP, learners clearly preferred to generalize the determiner-marked NP rather than the Ø marked NP. This result differs from what Arabski found for Polish learners of English, who opt for the Ø marked form of the NP (what Arabski refers to as 'simplification', 1979:100). The Danish learners' preference for determiner marking cannot be a result of generalizing the more frequent structural type, as is attested by the fact that the overall frequency of determiner-marked NP's in the data is app. 40% and the frequency of Ø-marked NP's app. 60%. Other principles such as perceptual saliency of the determiner or preference for free forms are probably more relevant.

As for the non-transfer of inversion, one possible explanation would be that the learners opt for the derivationally simpler structure, if one accepts that derivational complexity has some psychological reality. Alternatively, one could hypothesize that the inverted word order in Danish is more marked for the learners than the non-inverted word order and therefore not transferable. Derivational simplicity would match the correlation found between non-inversion and mode of production, if we assume that the processing load is higher in the spoken monologue than in the essay, and therefore calls for derivationally simpler forms. It is more difficult to explain why learners should be more prone to transfer marked structures in situations which allow for more cognitive control than in others. This leads on to the question of variation in transfer. As is attested by the results of inversion, the amount of transfer differed considerably in the three tasks for 7 of the 12 learners. One interpretation of this is based on the assumption that there exists a link between monitoring and transfer, though not in the sense of there being a monitor consisting of explicit linguistic knowledge which interferes with performance. Danish university students attending English grammar classes are generally unaware of the existence of the inversion rule in Danish, just as their metalinguistic awareness of the corresponding English rule is very restricted. The interpretation would rather be that these learners, after 4 years of learning English, have sufficiently automatized the English-specific rule for non-inversion and rely on this in situations which leave little room for consciousness to focus on formal aspects of communication. More consciously monitored speech production may activate more knowledge sources, in this case the Danish rule for inversion, and the learner experiences a clash between the two systems. This is directly reflected in one of the essays, in which the learner's monitoring process is captured in the self-correction:

if you run with the ball ~~the defender~~ would the defender kick you

If this holds true, we can predict that both high and low processing load may trigger off transfer procedures. In the one case, because the learner is dependent on highly automatized plans as consciousness is preoccupied with semantic planning. In the second case, because consciousness may have a de-automizing effect and activate alternative, mutually conflicting, plans.

Footnotes

* This is a revised version of a paper given at the International Conference of Contrastive Projects, University of Jyväskylä, June 1-5, 1982. Research reported in the paper is based on data compiled with the financial support of the Danish Research Council for the Humanities.

1. The term "learning" is adopted throughout the paper with reference to the process of building up competence in the L2, irrespective of the nature of the context in which this process is embedded. This is to avoid the confusion between formal/informal characteristics of the context and possible differences in terms of underlying processes (learning/acquisition). The formal/informal dichotomy is an observable and potentially significant variable. A distinction between a learning and an acquisition process is an interesting hypothesis, still to be proved, and not to be assumed a priori.

2. Transfer resulting in IL performance which is deviant relative to L2 is usually referred to as "negative transfer" or "interference". I avoid using these terms, as well as the corresponding term "positive transfer", as they are product-level oriented and have no qualitative correlates at the level of underlying psychological processes. Put differently, there is nothing gained from a psychological point of view in distinguishing between a positive and a negative transfer process. Cf also Wode 1981 for a related line of argumentation.

3. Hence the cautionary remark in Kellerman (forthcoming) that "every effort must be made to ensure that experimental claims are based on the appropriate contextualization of results".

4. My reason for preferring the term "generalization" to "overgeneralization" is that "over-" implies an assessment of the IL item relative to the L2 norm and hence obscures the psychological reality of the learner's situation. For a further discussion of this, cf Færch/Kasper 1983b.

5. Both exocentric and endocentric transfer may be induced from the communicative context. This means that contrary to Kasper's description of "Plurikausalität" (1981:334ff.), a transfer process which is induced by another pro-

cess is not here considered a multiple process. Multiple processes imply the simultaneous interaction of two processes in bringing about a certain product. This is essentially identical to what Zobl refers to as the "common bases of developmental and transfer errors" (1980).

6. As is clear from this description, no attempt is made in this paper to relate transfer to the comprehension of speech. For discussions of the use of the L1 in speech comprehension as part of inferencing, cf Carton 1971, Knapp 1980, Færch/Kasper 1980, Færch 1983b, Kasper 1983.

7. PIF = "Project in Foreign Language Pedagogy". For a description of the project, see Færch 1979. The data basis for the project is described in Færch 1983a.

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'Ask maybe ten hours'

SEMANTIC OVER-EXTENSION AND LEXICAL OVER-USE IN IMMIGRANT SWEDISH

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In the following I will discuss some cases of semantic over-extension in Immigrant Swedish. I will also give examples of what I call lexical over-use, which means that a word is used as a single exponent for a certain communicative intention in cases where the native user has access to several more or less synonymous expressions.

Introduction

It is a well-known fact that in learners' interlanguage, e.g. Immigrant Workers' speech, Gastarbeiterdeutsch and other pidginized variants, there is a tendency to use words in a somewhat different way and with different meanings than the way in which the same words are used in adult native speech. This phenomenon is called overgeneralization or over-extension.

Meisel (1977:192) for example, observes that German words in Immigrant German are 'used in a different sense than in standard German or in German dialects'.

The Heidelberger Forschungsprojekt (1977:38-39) states that the learner often uses one single word or rule in cases where the target language speaker has access to different synonymous words, expressions or rules. For instance the word kaputt is used in Immigrant German to describe any kind of deficiency, or the fact that something does not correspond to a certain norm. The meaning of these overgeneralized words is said to be less specified and more vague than the usual meaning of the words in the target language. The result is called 'semantische Verdünnung' (semantic weakening). According to the Heidelberger Forschungsprojekt, overgeneralization also means that words are used beyond their semantic limits and transferred to other semantic fields. Overgeneralized words are said to be used either extremely frequently or in an inadequate way.

The fact that lexical items are used with a meaning that in some way deviates from the usual target language meaning is also well-known from studies of another kind of learners' language, i.e. child language (see e.g. Clark & Clark 1977:490).

In this paper I will make a distinction between the concepts 'over-extension' and 'over-use'. By 'over-extension' I mean that a word is used in interlanguage to cover a larger part of a certain semantic field than what is normal in the

target language. By 'over-use' I mean that a word is the speaker's only exponent for a certain communicative intention in cases where the native user has access to several more or less synonymous expressions.

The term Immigrant Swedish (abbr. IS) is used in this paper only for the material described below.

The material

The material for this study consists of tape recordings made on 15 different occasions during a beginners' course in Swedish. The recorder was on during the lessons and registered spontaneous talk as well as the teaching. Only sequences of informal conversation are used in the study; all sequences related to the teaching situation are omitted. The recorded and transcribed material does not seem to be affected by the training situation because at the time of the course when the recordings were made, the informants probably still largely used the Swedish that they had informally learnt during the years in Sweden, at least in spontaneous utterances.

Informants were four Greek men, a Greek woman and a Polish woman, aged 26-49, who had been living in Sweden 3-15 years, when the recordings were made (table 1). They all worked as cleaning personnel at a large office in Stockholm. With the exception of the Polish woman, none of them had any education above compulsory school. No one had attended any courses in Swedish earlier, or otherwise learnt any language other than their mother tongue.

Table 1 Informants

	Nat.	Age	Years in Sweden	Education	Lexical tokens	Lexical types
Georgios (Ge)	Gr.	43	15	6 yrs	812	196
Dimitris (Di)	Gr.	44	9	6 yrs	4329	381
Takis (Ta)	Gr.	29	6	6 yrs	2404	318
Katarina (Ka)	Gr.	40	8	6 yrs	237	101
Nikolaos (Ni)	Gr.	26	3	6 yrs	230	94
Maria (Ma)	Po.	49	3	12 yrs	2418	360

The Greek informants lived rather isolated from the Swedish society, i.e. they were married to compatriots and spoke Greek at home and with their friends. At work they had a minimum of contact with their Swedish supervisors and only occasionally exchanged a few words with the rest of the staff. For necessary

contacts with Swedish authorities, hospitals and so on, they used municipal interpreters. They all planned to return to Greece some day.

The Polish woman, Maria, was married to a Swede and her contacts with the Swedish society were much more intense than those of the Greek informants. She spoke Swedish with her husband and his relatives, and almost never met compatriots in Sweden. She had no plans for returning to Poland.

The informants' Swedish

Although the informants' knowledge of Swedish was varying, so that two of them could be said to know hardly any Swedish, while two spoke rather fluently, the common pattern was that they all had difficulties in making themselves understood. Their Swedish deviates in many ways from ordinary Swedish as spoken by native Swedes. It is sometimes difficult to understand the meaning of their utterances, at least if one is not accustomed to the language they use. In fact some of the utterances are possible to interpret only if one compares all occurrences of a certain lexical item in the whole recorded material with one other. Other clues to the interpretation of the utterances are found in many of the Greek utterances that sometimes accompany the attempts in Swedish.

Here follow a few examples of the informants utterances. Translations as close as possible to the Swedish version are given in brackets.

In the first example Dimitris explains how difficult it is to understand all those 'papers' (letters) he gets from the authorities:

Di: kommer en papper hemma/ läsa fru/ förstår inte/ läsa du/ läsa jag inte/ eh fy fan papper/ de kanske betala pengar/ eller kvarskatt eller/ förstår du mej//kommer en papper på kyrka/ kyrka va heter/ kommer skriva den barn sex månar kommer på skriva på kyrka --- ja/ lite läsa/ oken den e fru den e inte på kasta/ stanna/ förstår du mej

(come a paper home, read wife, not understand, read you, read I not, shit paper, it maybe pay money, or taxes or, you understand me. Come a paper on church, church what is it called, come, write, that child six months come on write on church --- I a little read, OK it is wife it is not on throw away, stay, you understand me)

In the following example Georgios talks about the meaning of the words 'lunch' and 'dinner':

Ge: du vet Ulla/ jag i Småland aldrig inte lyssna lunch/ förstår/ ja komma i Sverige/ ee/ ja komma här i Stockholm va/ ja bara höra när kvinnor de säga eller va kallas de lunch/ å säga lunch men äta/ men mycke äta/ å säga samma som midda

(You know Ulla, I in Småland never not listen lunch, understand. I come

in Sweden, ee, I come here in Stockholm, I only hear when women they say or what is it called lunch, and say lunch but eat, but much eat, and say same as dinner.)

In the last example Takis tells the group about something he has seen through his window the night before:

Ta: i går ja titta på på// en klubb// den e på Tensta klubb va// den ligger bre- på min hem// i går klockan fem// på på natten// den kommer ja me min fru hemma// å ja titta på fönstren en kille sitter på ut-// på klubb

(Yesterday I look on on, a club, it is on Tensta (suburb of Stockholm) club, what? It is at on my home. Yesterday at five o'clock, on on night, it come I with my wife home, and I look on windows a chap sit on out-, on club.)

The vocabulary

As can be seen from table 1, one of the informants, Dimitris, spoke a lot during the conversations, using over 4000 words (tokens), while others participated much less. Katarina and Nikolaos for example uttered about 230 words each.

The table also shows that some of the informants displayed a larger vocabulary during the conversations than did the others. Dimitris used 381 different words (types) and Katarina and Nikolaos about 100 different words each. One should notice, though, that although Dimitris uttered almost twice as many words (tokens) during the conversations than did Maria or Takis, his number of types (381) is only slightly larger than that of Maria (360) or Takis (318). Dimitris's vocabulary was very small and since he was the dominating speaker, he had to use the few words he knew repeatedly in different contexts. The assumption that Dimitris used almost all the Swedish words he knew to express his communicative intentions cannot be proved here, but it can be inferred. Judging from my experience as the teacher of the group, I also assume that Maria in fact possessed a larger vocabulary than she demonstrated during the conversations. Georgios and Takis might also have had a slightly larger vocabulary than they actively showed, while on the other hand Katarina and Nikolaos, like Dimitris, probably used almost all the Swedish words they knew over and over again.

Token/type and repetitions

Table 2 is a reversed type/token table, showing how many times on the average each word within each word-class is used (form-words not accounted for). From

this table one can conclude that verbs and adverbs are used considerably more frequently than nouns and adjectives. Dimitris especially seems to use each verb a high number of times, and as far as adverbs are concerned the average is even higher.

Table ? Token/type

	Ge	Di	Ta	Ka	Ni	Ma
nouns	2.0	4.9	3.3	1.6	1.7	2.3
verbs	4.2	14.0	6.9	1.2	1.7	5.8
adjectives	1.7	6.1	3.4	1.9	1.4	3.3
adverbs	4.2	20.8	6.5	3.1	2.4	7.1

One explanation of the high token/type value of the verbs and adverbs could be that certain words are repeated particularly often. Repetitions are more or less frequent in all kinds of spoken language, but especially in interlanguage. As can be seen from the examples given above, this is the case also in Immigrant Swedish. Repetitions of single words or expressions are used for different purposes (see Kotsinas 1982, 1983a), for example to express emphasis (ex. 1 below), iteration and duration in the verb phrase (ex. 2-4) and to replace lack of pronominalization (ex. 5). A repetition also may give the speaker time to plan the following sequence (especially important to a learner, who has not yet mastered the new language perfectively) and to keep the turn (ex. 6-7).

(1) Ka: fel/ Ulla// betala varje månad fel fel fel (wrong Ulla, pay every month wrong wrong wrong = They always pay me the wrong sum)

(2) Di: skriva skriva skriva (write write write = They wrote to me many times)

(3) Di: ja vänta vänta vänta (I wait wait wait = I waited for a long time)

(4) Di: kommer på torsdag/ kommer på torsdag/ kommer kommer kommer kommer (come on Thursday, come on Thursday, come come come come = appr. They have said many times that the money will come on Thursday)

(5) Ge: han gå till doktor/ doktor säga om måste gå hem (he go to doctor, doctor say if must go home = He went to the doctor who told him to go home)

(6) Ta: varför varför varför varje måndag är trött (why why why every Monday is tired?)

(7) Ma: dom kan säga att vi också analfabet/ dom kan säga det (they can say that we too illiterate, they can say so)

Repetitions, however, cannot be the cause of the high token/type value of verbs and adverbs, since nouns and pronouns are repeated as often as verbs and adverbs.

Semantic over-extension

Judging from table 2, one may suspect that the high occurence of verbs in the informants' speech may be due to the fact that the meaning of certain verbs is stretched beyond their normal semantic limits. Indeed, this appears to be the case, as some of the most interesting examples of semantic over-extension are found among the verbs. To be able to describe this, I have divided the verbs in the material into groups, each group representing a certain semantic field. My basis for this division is a study by Åke Viberg on contrastive lexicology (1981). The verbs are registered in the following groups: Verbs of Motion, Existence, Verbal communication, The mental field, Owning and transfer, Physical activities (except motion), Other verbs.

It is not possible here to describe in detail the use of every verb in the material, so I will restrict my presentation to those semantic fields where over-extension is most obvious.

Two tables are presented below, each showing the informants' use of verbs in a certain semantic field (e.g. Verbs of motion). The tables are divided into a number of columns, each column representing a semantic subfield (e.g. come, go, etc.). These subfields are denoted in capital letters. Directly under the names of the subfields some of the most common Swedish verbs, used within each subfield are listed, together with their English equivalents. Finally, each informant's use of verbs within each subfield is registered. Numbers in brackets signify the number of times each informant uses each verb.

The first field that I will discuss is Verbs of Motion (table 3). This semantic field is divided into four subfields in Swedish: KOMMA (come, arrive), GÅ (go, leave), ÅKA (travel), and PROMENERA (walk).

Table 3 Verbs of Motion

KOMMA/COME komma(come)	GÅ/GO gå (go) ge sig av (leave)	ÅKA/TRAVEL åka, resa (travel)	PROMENERA/WALK promenera, gå (walk)
Ge komma (15)	gå (9)	komma (1)	-
Di komma (88)	komma (25) gå (2)	komma (8)	promenera (5)
Ta komma (33)	gå (5)	åka (5)	-
Ka komma (2)	-	-	promenera (1)
Ni komma (1)	-	komma (2)	-
Ma komma (7)	gå (1)	åka (2) resa (4)	-

As can be seen from the table, all the informants express the subfield KOMMA at least once, using the verb komma. Four informants express the subfield GÅ. Three of them, Georgios, Takis and Maria express this subfield correctly by using the Swedish verb gå. The fourth, Dimitris, expresses this subfield with gå only two times, incorrectly using the verb komma here 25 times. The subfield ÅKA is expressed by five informants. Takis uses the correct Swedish verb åka, as does Maria, who also uses the synonymous (correct) verb resa. Georgios, Dimitris and Nikolaos all use komma (come), which is incorrect according to Swedish norms. The last subfield PROMENERA is expressed by only two informants, Dimitris and Katarina. Both use the correct Swedish verb promenera.

Komma is by far the most frequent verb in the field, used by all informants in altogether 182 instances. The basic meaning of komma is 'arrive' and all the informants use the word at least a few times in this sense, e.g.:

(8) Di: nästa månad kommer penga (next month come money = the money will come next month)

(9) Ma: hennes man kommer i går från Grekland (her husband come (=came) yesterday from Greece)

In 18 instances gå is correctly used to express the subfield GÅ:

(10) Ge: han gå till doktor (he go to doctor = he went to the doctor)

(11) Ta: efter en timma går till tunnelbana/ går hem (after one hour go to subway, go home = an hour later he went to the subway and left for home)

In examples 12 and 13 åka and resa are correctly used for the subfield ÅKA. Observe that Swedish, opposed to English, makes a distinction between gå (travel by foot) and åka, resa (travel by vehicle).

(12) Ta: du åka till Grekland? (you go to Greece = are you going to Greece?)

(13) Ma: jag vill resa till Polen (I want to go to Poland)

In examples 14-17, however, Dimitris uses the verb komma in contexts where a Swedish speaker would have used gå:

(14) Di: kommer på exepetor// frågar kom (come on supervisor, ask come = I went to the supervisor and asked her (told her) to come)

(15) Di: i går en man kommer på toalett tvätta (yesterday a man come on lavatory wash = yesterday a man went into (entered) the lavatory and there he washed (his clothes))

(16) Di: de mycke grekiska kommer i skolan (it much Greek come in school = many Greeks go to school)

(17) Di: kommer barn på daghem (come children on nursery school = the children go to nursery school)

In a similar way the verb komma is used in examples 18 and 19 in contexts where åka or resa would have been correct:

(18) Ni: jag kommer// komma pappas fru (I come, come daddys wife = I went (by car) to my father-in-law)

(19) Di: kommer i Grekland (come in Greece = I went to Greece)

Looking back at table 3, one finds that one verb, komma, seems to dominate within the semantic field Verbs of Motion. It is not only used by all informants in the subfield KOMMA but also by three of the informants in either the subfield GÅ or the subfield ÅKA or both. The verb komma could be said to extend into a larger domain than what is possible according to Swedish rules. This tendency is most striking in the case of Dimitris, who uses the verb komma whenever he needs a verb denoting something like 'physical motion to or from a place'. On the other hand he seems to use the verb promenera when he wants to express something like 'walk around without a goal'. If this hypothesis holds true, then Dimitris divides the field Verbs of Motion, not into four subfields, as normally is the case in Swedish, but into two subfields, where 'with source or goal' and 'without source or goal' are the distinctive features. It is interesting to note that the same distinction may be found in many of the languages of the world. French for example makes a major distinction between 'verbes de mouvement' ('manner-of-motion-verbs'), and 'verbes de déplacement' ('directional verbs') (see Schlyter 1978:349).

Although there are very few Verbs of Motion in Katarina's performance, there seems to be the same tendency in her use of the verbs komma and promenera. This explains the strange fact that both Dimitris and Katarina have learnt the verb promenera, although this word normally would be quite difficult to learn, both because it is a comparatively long word and because it does not belong to the most frequent words in Swedish. (In Kotsinas1983b it is demonstrated that most of the words learned by the informants are short and belong to the most frequent words in spoken Swedish).

But if this hypothesis of a two-dimensional system of Verbs of Motion is correct, how can one explain the fact that Dimitris also uses the verb gå in a few examples? Actually, the two cases of gå both occur in contexts where one may suspect that he has learnt the word as part of an expression (gå ut = go out). He also uses the verb 4 times (not registered in the table) in what could be called 'copying', i.e. when someone else in the group recently has used it.

It thus seems as if Dimitris has some more or less passive knowledge of the verb gå and that the verb slowly is coming into his active vocabulary. At the time when the recordings were made, Dimitris had spent 9 years in Sweden, and it seems quite possible that he by then had started to understand the word gå and also to use it now and then. That is to say, his two-dimensional system is slowly changing into a three-dimensional system.

To sum up, one might suggest that all the informants, even those who have a very small vocabulary (Katarina and Nikolaos), have learnt the verb komma and are able to use it correctly in Swedish, when they want to express the meaning 'come, arrive'. For the meanings 'leave' and 'travel, go by vehicle' some of the informants use the correct Swedish word, while others prefer komma even if they, like Dimitris, know and sometimes use gå. Maria, who in many respects could be judged to be the most linguistically advanced of the informants, never uses komma for gå, and she even uses a couple of synonyms, resa and åka (travel).

Another semantic field where cases of over-extension can be found is the field Verbs of Verbal communication. This field can be divided into six subfields in Swedish: SÄGA (say), UPPMANA (tell to do), FÖRKLARA (explain), SAMTALA (talk), FRÅGA (ask), and SVARA (answer), (table 4).

Table 4 Verbal communication

	SÄGA/ SAY	UPPMANA/ TELL TO DO	SAMTALA/ TALK	FÖRKLARA/ EXPLAIN	FRÅGA/ ASK	SVARA/ ANSWER
	säga (say) berätta (tell)	säga till (tell, order)	tala (talk, speak) prata (chat)	förklara (explain)	fråga (ask)	svara (answer)
Ge	säga (9)	-	diskutera (1) (discuss)	-	fråga (3)	-
Di	fråga (1)	fråga (1)	tala (1) fråga (13)	-	fråga (4)	-
Ta	säga (9) berätta (2)	fråga (4)	tala (1) prata (1)	förklara (5)	fråga (3)	svara (5)
Ka	-	-	-	-	-	-
Ni	-	-	-	-	-	-
Ma	säga (16)	-	prata (2)	förklara (1)	fråga (3)	svara (2)

The subfield SÄGA (say, tell) is expressed in my material by three verbs: säga (say), berätta (tell) and fråga (ask). Two of these verbs (säga and berätta) are correct Swedish, as the following examples illustrate:

(20) Ge: han säga hon född i by (he say she born in village = he says that she was born in a village)

(21) Ta: vi ska berätta det på facket (we will tell it on union = we will tell the union)

Dimitris, however, uses the verb fråga (ask) for the meaning 'say', which is not correct Swedish:

(22) Di: på fredage ja fråga// träffas me me facket klockan tio (on Friday I ask, meet with with union ten o'clock = I want to say that I am going to a meeting with the union on Friday)

The next subfield, UPPMANA (tell someone to do something) is expressed by two informants only, Dimitris and Takis, who both use the verb fråga (ask), (examples 14 and 23). This use makes no sense in Swedish, but if one substitutes fråga with säga (say) the utterances are quite clear. (In example 14 the construction 'asked her to come' is possible in English, but in Swedish the verb fråga cannot be used in this way.)

(23) Ta: an kommer på morrone/ fråga mej// Takis i dag inte köra maskin (if come in the morning, ask me, Takis not drive machine today = if they come in the morning and tell me not to drive the machine that day ...)

In the next subfield, SAMTALA (talk), the correct Swedish verbs diskutera (discuss), tala and prata (talk) are used by four informants (examples 24-25). Dimitris also uses the verb fråga 13 times, although it cannot be used in Swedish in this sense (examples 26-27).

(24) Ma: måste prata lite grann ibland (must talk a little sometimes = one has to talk (chat) a little sometimes)

(25) Di: han kommer// tala me flickor (he come, talk to girls = he will come soon, he is talking to the girls)

(26) Di: fråga kanske tio timmar (ask maybe ten hours = we talked for a long time)

(27) Di: kommer flicko mycke vacker// kom fråga me Takis (come girl much pretty, come ask with Takis = a very pretty girl came and talked to Takis)

Within the subfield FÖRKLARA only one verb is used, förklara (explain), in a few cases by Takis and Maria, and in the last two subfields, FRÅGA and SVARA, the correct Swedish verbs fråga (ask) and svara (answer) are correctly used by four and two informants respectively.

Thus it seems that some of the informants tend to extend the use of a certain verb in the semantic field Verbs of Verbal communication in about the same way as was the case in the field of Verbs of Motion. Especially Dimitris (who has

the largest number of over-extensions of komma in the field of Verbs of Verbal communication), uses fråga in an extended way. Altogether he uses fråga 19 times. His single example of tala is very probably the result of 'copying' (the teacher had just used the word prior to his utterance).

Except for the cases shown in the table, Dimitris also uses another verb denoting verbal communication, prata (talk, chat), as much as 23 times. He always uses it in connection with the names of a language (Greek, Swedish, Polish). This fact seems to indicate that Dimitris has made a distinction between two types of Verbs of Verbal communication:

1) prata (talk), meaning something one does with a language (speak Greek, English and so on). This verb could have been learnt together with names of languages as a whole phrase.
2) fråga (ask) and, to a smaller extent, tala (talk) denoting all other verbal activities, except maybe 'answer', a meaning that he did not try to express during the conversations.

Takis also uses fråga a number of times in an extended way (to denote the meaning 'tell'), while Gergios and Maria make no over-extensions within this field. Katarina and Nikolaos use no verbs at all for Verbal communication. This could signify that these verbs are rather difficult to learn, or at least to apply in contexts, probably because they need a somewhat more elaborated syntax than do many other verbs.

It is interesting that fråga is the verb that is used in an extended way by Dimitris and Takis. One would have expected the verb säga (say), which is much more frequent in Swedish. One possible explanation is that this verb has an irregular inflection (säga, sa, sagt) and is therefore difficult to perceive. Another explanation may be that the verb fråga is probably more frequent in speech directed to immigrants than säga in contexts like 'Ask over there' and 'May I ask you a few questions'.

In addition to the fields discussed, semantic over-extension can be found also among the Verbs of Perception, where titta (look) is used to denote both titta and se (see) and lyssna (listen) for both lyssna and höra (hear):

(28) Ta: ja titta på fönstren en kille (I look a guy on windows = I saw a guy through my window)

(29) Ge: jag i Småland aldrig inte lyssna lunch (I in Småland never not listen lunch = I never heard the word lunch in Småland (part of Sweden))

In the largest verb group, the one called Other verbs of Activities, however, there are no obvious signs of words being used beyond their semantic limits.

This group contains verbs denoting more or less concrete activities, such as köra (drive), läsa (read), städa (clean), tvätta (wash), dansa (dance), dricka (drink), and äta (eat). It is also worthy of note that Dimitris who uses very few verbs within certain semantic fields (e.g. Motion and Verbal communication) seems to be the one who has access to the largest number of more concrete verbs.

Looking at nouns, one finds that many of the words in this word-class denote persons or concrete things, and that few obvious examples of overextensions are to be found among these words. There are, however, some instances where a noun could be said to pertain to a larger part of a semantic field than it normally does in native Swedish. For example, the word kanal (canal) is used in the following example in a way that seems a bit odd, because there are, in fact, not many canals in Greece:

(30) Di: vatten mycke i Grekland// kanal// mycke kanal (water much in Greece, canal, much canal)

What Dimitris probably means is that there is a great deal of open water, sea, in Greece. Since the word hav (sea) apparently does not exist in his vocabulary, he uses the one with a meaning as close as possible, kanal (Gr. kanáli), and extends its meaning to 'sea', 'body of water'.

In the following example Takis uses the word stad (town) where he should have used the word by (village), which he probably does not know:

(31) Ta: vad heter stan på din mamma? (what is the name of the town on your mother? = what is the name of the village, where your mother lives?)

A great deal of over-extensions are to be found among the form-words, especially prepositions and certain adverbs. In examples 32-34, for instance, the prepositions i (in) and på (on) are used in contexts where till (to) would have been correct. I and på in Swedish both denote LOCATION, while till has the features LOCATION + DIRECTION.

(32) Ge: ja komma i Sverige 1964 (I come in Sweden 1964 = I came to Sweden 1964)

(33) Di: kommer på Nilsson (come on Nilsson = I went to (mrs) Nilsson)

(34) Ni: ja komma me bil på garage (I come with car on garage = I came with my car to the garage)

Indeed, some of the informants always use i or på where prepositions with the features LOCATION + DIRECTION are needed. Sometimes på is used even in cases where från (from) would have been correct, i.e. a preposition with the feature LOCATION replaces a preposition with the features LOCATION + DIRECTION + FROM, as in the following example:

(35) Di: kommer en papper på kyrka (come a paper on church = a paper (letter) came from the church)

In examples 32-34 interference from Greek could be a possible explanation to the mistakes, since Greek, like French, uses the same preposition (se) to denote LOCATION and LOCATION + DIRECTION. This explanation, however, is not conceivable in example 35 since Greek does have a preposition with the features LOCATION + DIRECTION + FROM (από).

The over-extensions in the class of adverbs mostly occur among words meaning 'here', 'there', 'up', 'down' and the like. Unlike English and Greek, Swedish makes a distinction between words as här ('here' as in 'he is here') and hit ('here' as in 'he came here'), and där ('there' as in 'he is there') and dit ('there' as in 'he went there'). That is to say that the second word in each of the pairs här - hit, där - dit, uppe - upp (up), nere - ner (down) has the feature DIRECTION, which the first word does not have. The over-extensions as regards these words are of the same kind as those among prepositions, i.e. a word without the feature DIRECTION is chosen where a word with that feature would have been correct.

Over-extensions in child language and in adult learners' language

Eve Clark and Herbert Clark have both discussed over-extensions in child language. Herbert Clark claims the following:

> the complexity hypothesis claims that given two terms A and B, where B requires all the rules of application of A plus one or more in addition, A will normally be acquired before B. (H. Clark 1973:29)

If this hypothesis is also valid in interlanguage, it explains why prepositions and adverbs with the feature LOCATION can replace words with the features LOCATION + DIRECTION. The words with few features are learned before those with more features and as long as the learner does not know the more complex words, he has to use the more uncomplicated words instead.

Eve Clark suggests that the child learning a first language will begin by identifying the meaning of a word with only one or two features rather than with the whole combination of meaning components of features. The child himself does not know that he has not yet learned the full meaning of the word.

> The child will use those one or two features criterially in deciding when to apply the word and when not. Since he has only a partial characterization of the word's meaning set up, his referential categories may often differ

> considerably from the adult's for the same words. The child will make referential errors because he does not yet know the combinations of features that will allow him to delimit his categories differently. The principal difference between child and adult categories at this stage will be that the child's are generally larger since he will use only one or two features criterially instead of a whole combination of features. (E. Clark 1973:72)

Eve Clark further suggests that the child learns the full meaning of a word gradually by adding more and more features to their lexical entries.

It seems that in some respects there are important similarities between the acquisition processes of L1 and L2. In the initial stages the adult L2 learner, just like the child, may identify the meaning of a word with only one or two features rather than with the whole combination of meaning components and he may well be unaware of the fact that he has not yet learned all the meaning components of the word. Since for him the word has only one or two important features, he does not notice that he makes referential errors. Gradually, though, he may understand that the first learned word has more features than he originally noticed, which in turn makes him understand that the word is not applicable in all contexts where he originally used it. He will have to add more words to his vocabulary within a certain semantic field, i.e. the acquisition process goes on.

Assuming that the learner at the beginning of the acquisition process realizes that the word komma, which is a word that he often hears, has the feature MOTION WITH SOURCE OR GOAL, it is obvious that he will use this word in all cases where he needs a word with this feature until he understands that there are more features connected to the word and that there are more words in the semantic field Verbs of motion.

Dimitris is the informant who most often extends the use of komma to denote activities within the field Verbs of Motion. Actually, however, he extends the use of this verb even more, using it to denote any change of action or state, i.e. in contexts where a native Swede would have used for instance börja (begin), bli (become), träffa (meet, get to know), förstå (realize, become aware of) (see Kotsinas 1981). In fact it seems that the word to Dimitris has the feature CHANGE (of place, time or state) and represents a very large semantic field where this feature is the most important one.

In the same way fråga only has the feature VERBAL COMMUNICATION in the beginning of the acquisition process.

This hypothesis would explain why over-extensions always occur within a semantic field. The Heidelberger Forschungsprojekt (1977:39) defines over-generalization (=over-extension) as words used beyond their semantic limits and transferred

to other semantic fields. In my material there are no such cases at all. All the semantic over-extensions are made within a particular field. Komma may replace many Swedish verbs, but the replaced words always have the feature MOTION, or, concerning Dimitris's use, CHANGE. Komma never replaces words meaning 'say', 'look', 'stand', 'wash' or any other verb that does not have the feature MOTION or CHANGE. A preposition with the feature LOCATION + DIRECTION may be replaced by another preposition with the feature LOCATION only, but never by prepositions like efter (after) or över (over). It is also evident that the learners first aquire words with few features, possibly because these words are frequent and very useful in the target language. Gradually the learner adds more complicated words to his vocabulary. He rarely goes the other way round, although this can happen if the learner really needs a certain word or if the more complicated word has a recognizable equivalent in his own language, like kanal.

If, on the other hand, the learner for some reason never realizes that he in fact makes referential errors, it will seem superfluous to him to learn more words within a certain field. He will be quite content to have found a word that possesses the semantic feature that he needs. In that case the acquisition process stops, i.e. his language fossilizes. In some respects this seems to be what has happened to Dimitris's Swedish. Apparently he has found a system to denote the semantic fields CHANGE, VERBAL COMMUNICATION and LOCATION (regarding prepositons), and he does not take the effort to break up or elaborate this system and try to learn new ways to express himself.

Over-extensions also seem to occur within a certain word-class. Thus an adverb with the features LOCATION + DIRECTION never replaces a preposition with the same features, or even with only one of these features.

Most cases of over-extensions reported in studies of child language occur among nouns and words for dimension, such as certain adverbs, prepositions and adjectives. As regards spatial terms, adult L2-learners seem to learn words in the same way as children, passing the same stages. Thus there are for example great similarities regarding the acquisition of prepositions (words meaning 'in' and 'on' in both Swedish and English child language and also in Swedish and German L2-acquisition).

But there also seem to be differences between the child's acquisition process and that of the adult. Children seem to over-extend the meaning of nouns much more often than that of verbs, while adults do the opposite. This difference may have to do with differences connected to the knowlege of the world. The child has to learn to classify his experiences into certain concepts, i.e. to learn about the world itself and how it is arranged. The adult, on the other hand, already has a lot of knowledge in his mental encyclopedia. What he wants to learn

is not so much how the world is organized, but how to name that which he already knows. This could explain why children often over-extend very concrete words (calling both a cow and a horse 'cow' for example) and why adults do not often make these kinds of mistakes. The adult knows that 'cow' and 'horse' are different concepts, that ought to be named with different words, and consequently he looks for the correct words at the very beginning, knowing well that people may laugh at him if he uses one word instead of the other. Possibly languages, at least those within the same cultural area, use similar classification methods for concrete objects and activities. The learner will often find exact or almost exact equivalents to the words and expressions used in his own language. Thus the over-extensions are relatively few in the adult learner's language as far as concrete words (nouns and some activity verbs) are concerned. When it comes to more abstract concepts, like those expressed by certain verb fields, or to relations, e.g. those expressed by prepositions and certain adverbs, or more abstract functions of the language, like modality, aspect and so on, one may find that languages within the same 'family' may well use semantic and syntactic distinctions, that show great differences.

A person who has very little knowledge about language learning or grammar and who tries to learn a second language by listening to target language speakers may believe that every word in his own language has an equivalent in the new language. Concerning concrete words this is often the case, but when it comes to more abstract words the learner will have difficulties. The learner may now choose one of two ways: either he tries to learn the new language and all its 'peculiarities' or he gives up and learns only a few words in each of the more difficult fields, which results in his having to over-extend these words.

Over-use

Over-extensions often result in misunderstandings between the learner and the native spaker. It is not easy to understand that someone uses the word come when he actually means 'go' or that he uses on meaning 'to' and that consequently come on Greece means 'I went to Greece' or that come a paper on church means 'I got a letter from the church' or that ask on boss means 'I told the boss'.

As stated earlier, the Heidelberger Forschungsprojekt (1977:38-39) observes that certain words (e.g. kaputt) are "over-generalized" to cover entire semantic fields. It is noted that these so called overgeneralized words are used either "remarkably frequently" or inadequately.

Contrary to the Heidelberger Forschungsprojekt, I will make a distinction between what I call over-extended words and over-used words. The former are used in an 'inadequate way', covering a larger part of a certain semantic field than these words usually do in target language. The latter are used 'remarkably frequently' in the following way: Sometimes a learner uses a certain word or expression in ways that seem to be rather special to him without being incorrect from the target point of view. For example the word problem (problem) in my material is used for all cases where the speaker wants to express that something is problematic, difficult, wrong and so on.

(36) Ta: alla grekiska invandrare de e problem me firma (all Greek immigrants it is problem with firm = all Greek immigrants have problems, difficulties with this firm)

(37) Ka: ingenting problem me E. idag? (nothing problem with E. today? = have you had any problems with E. today?)

Likewise, expressions like det spelar ingen roll (it doesn't matter) are used over and over again to express the speaker's lack of interest or his indifferent attitude (real or pretended) to something.

(38) Ge: inte spela ingen roll säga du/ spela mycke stora roll (not play no role you say, play very big role = you say it doesn't matter, it matters very much)

(39) Ta: men de spela ingen roll men de/ de inte problem (it play no role but it is not problem = but it doesn't matter, but it it is no problem)

Almost all kinds of positive evaluation are expressed by one word, bra (good), while negative evaluation is expressed by inte bra (not good). Anything between two opposites like bra - dålig (good - bad) or ung - gammal (young - old) is normal (normal).

(40) Ge: vi inte så bra svenska (we not so good Swedish = we don't know Swedish very well)

(41) Di: inte bra politik (not good politics = (they) don't understand politics)

(42) Di: du jobba inte betala/ de bra? (you work not pay, it good? = appr.: is it OK that they don't pay you when you work?)

(43) Di: de kanske fem fem timmar normal (it maybe five five hours normal = appr.: it is enough to work five hours)

All kinds of estimation of size is expressed by liten (small) or stor (big), and reinforcement is expressed by mycket (much) and diminishment by lite (little).

(44) Di: den e lilla/ inte stora (it is little (small)/ not big)

(45) Di: mycke pengar (much, a lot of money)

One of the expressions that occur frequently in the material is till exempel (for example). It is used by all informants to denote all kinds of exemplifications.

(46) Ma: till exempel vill åka till andra land (for example want to go to other country = if I want to go to another country, for example)

Sometimes it is also used to express hypothetic cases, as in example 47, i.e. in cases where a native speaker would have used a subjunctive clause or chosen between a whole range of different adverbs and other constructions:

(47) Di: till exempel inte läsa// på kasta// de inte bra (for example not read, on throw, it not good = if you throw away the letter without reading it, it may be bad, bad things may happen)

In much the same way the adverb kanske (maybe) is used as a single means to express approximation:

(48) Di: de kanske halv en timma kanske (it maybe half an hour maybe = about half an hour)

(49) Di: kanske två tre timma sova (maybe two three hour sleep = I slept a few hours)

The speaker's own attitude to what is said is often expressed by rhetorical questions beginning with varför (why):

(50) Di: varför de stäng inte apparat? (why it not close machine = I think that they ought to forbid the use of those machines)

The reason the learner uses these 'key-words' so frequently is, of course, the size of his vocabulary. In the beginning of the acquisition process he concentrates on learning one expression for each one of his linguistic needs. An adult speaker does not only require words for objects and activities, but he also wants to express his own attitudes and evaluations. To be able to do so he learns a few words and expressions like the ones mentioned above and then he uses them whenever necessary. The difference between him and the native speaker is that the latter mostly has access to a wide range of synonyms and synonymous constructions whereas the L2-learner uses one single word or construction. While learning, the learner has to 'economize', i.e. to try to cover as many of his linguistic needs as possible, rather than trying to cover one need perfectly and let the others be. Consequently he can not afford synonyms in the initial phases of learning.

Not only does the learner refrain from learning synonymous expressions. Antonyms are also difficult in the beginning, and antonymity is expressed by means of the negation, for example inte bra (not good) instead of dålig (bad), inte svår (not difficult) instead of lätt (easy). By simply negating things in this manner the learner only has to acquire one word of a pair of antonyms.

Since these types of words and expressions are used extremely often by some speakers, the listener may get the impression that the speaker repeats himself. He may even get bored listening to someone who utters more or less the same words again and again. As mentioned before, the over-used words are not used beyond their semantic limits or in an 'inadequate' way, but because they are used so frequently they tend to loose some of their specificity and their meaning becomes vague.

Conclusions

Basically, semantic over-extension and lexical over-use are the results of the same process. They both emanate from a strong need to express certain communicative intentions with a very limited vocabulary and a restricted set of semantic and grammatical rules. The difference between over-extension and over-use is that while the former often leads to misunderstanding between the learner and the target language spaker due to differences in referential meaning of the words, the latter does not necessarily lead to misunderstandings, because the learner and the target language speaker use the word or expression in much the same way. In this case the learner has access to one and only one construction, which makes his language meager and repetitive and does not give him the possibilities of variation and nuance in what he is saying.

Summary

In this paper, I have discussed cases of semantic over-extension and lexical over-use in Immigrant Swedish. Over-extensions are most obvious among verbs and prepositions, but exist also among nouns, adjectives and adverbs. They indicate that there are similarities in the acquisition process of child language and adult L2-learners' language, especially when it comes to the adding of semantic features to words. The term lexical over-use here means that

a learner uses the same lexical element over and over again, because he does not have access to synonymous expressions. Semantic over-extension and lexical over-use originate from the same source: expressing a need to communicate but having very restricted linguistic means to do so.

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THE RELATION BETWEEN CODE DIFFERENTIATION AND LANGUAGE MIXING IN BILINGUAL THREE- TO FOUR-YEAR-OLD CHILDREN[1]

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Research investigating early childhood bilingualism suggests two opposing theories explaining how the child learns to separate the two languages; a one-system theory in which the languages are gradually differentiated and a two-system theory in which the child is able to differentiate the two languages from the earliest stages of linguistic development. Earlier studies have used changes in language mixing patterns as the main source of support for either a one- or a two-system theory. This approach is criticized on the grounds that a decrease in language mixing may reflect both a growing awareness of the difference between the languages as well as other factors such as an increase in the number of translation equivalents.

In the present study a different approach was taken, i.e., using other measures of code differentiation and investigating the extent to which these correlated with language mixing. The results showed that children who avoided using their other language in a word test situation when naming pictures of objects which were not known in one of the languages (thus classified as having differentiated the two languages) showed significantly less mixing in their speech than children who freely substituted words from their other language for items not known. These results give support for a one-system theory of bilingual language acquisition.

Background

It is a well-known fact that the four-year-old bilingual child shows remarkable skill in differentiating between his two languages, using each one in appropriate situations and to appropriate interlocutors (see, e.g., Marcon & Coon 1983). Nevertheless, studies systematically investigating how the young bilingual child learns to separate his two languages have been scarce in the literature. In general, two opposing theories have been suggested concerning the language differentiation process, these being referred to by Redlinger and Park (1980) as the one- and two-system theories. Research findings supporting the one- and two-system theories are discussed briefly below.

Research supporting a one-system theory

Researchers supporting a one-system theory contend that the child initially starts out with one language system from which the two languages are gradually differentiated. For example, Leopold (1954:19-20) states that 'infants exposed to the two languages from the beginning do not learn bilingually at first but weld the double presentation into one unified speech system'. Data supporting this thesis are provided by Imedadze (1967) in a study of a child exposed to Russian and Georgian from birth. She reports that the first words of the child were from both languages and formed a single vocabulary in the eyes of the child. The child addressed adults in his environment indiscriminately, despite the fact that the languages were strictly separated according to interlocutor. At age 1;8, however, this situation changed and the child began speaking each language consistently with the different adults in its environment.

That the child was truly bilingual at this second stage however, may have been refuted by other investigators using a stricter definition of bilingualism. For example, even at age 2;3 Imedadze reports a refusal on the part of the child to use the second language to interlocutors in the presence of a person with whom the first language was normally used. Volterra and Taeschner (1978) however, suggest that it is not until the child ceases to classify interlocutors in terms of their language affiliation that it can be said to be truly bilingual.

Volterra and Taeschner (op.cit.) describe two children exposed to Italian and German in the home by parents using a one person: one language strategy. The data concern the age period 1;0 to 4;0. The authors suggest that bilingual children pass through three stages in the differentiation of their two languages:

(1) a stage in which the child has one lexical system including words from both languages
(2) the differentiation of two lexicons but the use of one syntactic rule system for both languages
(3) the differentiation of lexicon and syntax but the association of each language to the person using that language

As Imedadze (op.cit), the above authors also report an initial single vocabulary system. During this stage the language used depends more on what the child wishes to say than on the language spoken to him, as he often does not possess translation equivalents in the two languages. During the second stage, the child has acquired many translation equivalents in the two languages. Even at this time, however, a wrong word may be used to an interlocutor because words from the two languages may be strongly tied to the particular context in which the word

was first learned. When flexibility finally appears at the lexical level, however, considerable rigidity at the syntactic level may remain. The authors suggest that until about the age of 2;9 the children studied appeared to have one syntactic system which they used for both languages. During the third stage, the child is aware of separate lexical and syntactic systems but in order to minimize interference, he rigidly associates the languages with different persons and may become extremely upset if a person normally associated with one of the languages uses the 'wrong' language. When this rigidity ceases (as a result of the syntactic differences between the languages becoming more and more apparent) the child can be said to be truly bilingual.

Although the above study accounts for language separation in the case where parents have used a one person: one language strategy it does not explain language separation in children raised according to other bilingual strategies (see Arnberg 1979, for a discussion of strategies used in bilingual families). For example, does the child whose parents use the languages interchangeably suffer a delay in learning to separate the languages or does he, as suggested by Doyle, Champagne, and Segalowitz (1977), use phonological differences rather than the association of the languages with separate contexts to distinguish the two codes?

Also, does the child exposed to a mixed strategy show a similar rigidity to the child raised according to a one person: one language strategy in labeling persons according to the language they speak? One might hypothesize that a greater flexibility may result from the knowledge, at an early age, that people can and do speak two languages (see Aronsson & Wigforss 1974).

Redlinger and Park (1980) studied four bilingual children between the ages of two to three years over a nine-month period. The children were growing up in Germany and had fathers who were German-speaking and mothers who were either Spanish-, English-, or French-speaking. The authors point out methodological weaknesses with many of the earlier studies (e.g., a failure to study language mixing developmentally and the basing of arguments on examples rather than distributional data) and emphasize the need for studies investigating language mixing in relation to overall linguistic growth patterns in order to support either a one- or two-system theory. The results showed that mixing rates descreased with advancing linguistic development, suggesting that the children were in a gradual process of language differentiation, this providing support for a one-system theory of bilingual acquisition.

Further support for a one-system approach is given by Oksaar (1973) and Swain and Wesche (1975) as well as in individual studies appearing in literature reviews (see Arnberg 1981, McLaughlin 1978, Redlinger 1979).

Research supporting a two-system theory

Although a number of studies reported in the literature thus support a one-system theory of bilingual acquisition, other investigators suggest that bilingual children are able to distinguish their two languages from the earliest stages of linguistic development.

Padilla and Liebman (1975) studied three Spanish-English-speaking children, aged 1;5 to 2;2 at the onset of the study, for three to six months. Although mixed utterances appeared, the authors suggested that the children studied showed evidence of using two distinct rule systems at the lexical, syntactic and phonological levels. As support for this hypothesis they used the fact that even when mixing occurred, the structural consistency of the utterance was maintained. For example, if the child used an article in Spanish, the same item was not added in English (as in es un a baby pony) since the use of the English article would be redundant. Furthermore it was suggested that the use of mixed utterances as an indication of a lack of code different differentiation may not be useful for children growing up in Southwestern and Western areas of the United States where a mixed code may be a dialectal pattern among adult speakers. It should be pointed out however that the results concerning redundancy of lexical items were not supported by Redlinger and Park (1980) who found lexical duplication in their young bilingual (Spanish-German, English-German, and French-German) subjects, e.g., I put it das up ('I put it it up'). Arnberg (1981) also found redundancy of lexical information in sentences involving inflected words, e.g. och the pursen ('and the the purse').

Lindholm and Padilla (1977, 1978) studied 5 respectively 18 children between the ages of approximately 2 to 6 years from Spanish-English-speaking backgrounds. The analyses revealed that language mixing only occurred in about 2-3% of the children's total utterances. As in the earlier study, the authors suggested that mixing should not be used as evidence of the lack of code differentiation. Rather, the children mixed systematically, for example, when they lacked a lexical entry in one of the languages, when they momentarily forget one of the words, or when one of the words had greater saliency, e.g., as a result of television and radio advertisements. The authors concluded that bilingual children, from an early age, are able to differentiate their two linguistic systems.

A criticism of Lindholm and Padilla's (op.cit.) studies, however, is that by pooling the data from subjects covering a wide age span, developmental trends are obscured (Redlinger and Park 1980). This was especially important in the present case in relation to the fact that the language differentiation process,

according to most investigators, occurs sometime during the second and third years.

Bergman (1976) suggests a two-system approach or 'Independent Development Hypothesis' in describing her bilingual daughter's simultaneous acquisition of English and Spanish. The child appeared to be learning the two languages independently and very little mixing occurred. When it did occur, however, interference was attributed to linguistic input rather than the child's inability to keep the languages apart. Bergman thus concluded that 'mistakes in the linguistic performance of the bilingual child can be attributed to the imperfect learning of the sociolinguistic rules of his two languages rather than a lack of knowledge of the linguistic rules'. (1976:95)

In a further example Bergman (1981) describes a boy (age 2;11) who initially appeared to mix his two languages (English and Spanish) indiscriminately. When samples of his speech were further analyzed it was found that mixing was not at all random. The child used English with English interlocutors and Spanish with Spanish interlocutors most of the time. It was also found that the child preferred one language over the other in certain language domains. The author concluded that the child's use of a mixed code did not indicate either that he did not know one language from the other or that he was developing a hybrid system.

The purpose of the present study

The results from the studies reported above are similar in that in all cases at least some mixing of the languages is reported in the early speech of bilingual children, although less mixing is reported by researchers proposing a two-system theory. Investigators are not in agreement however concerning whether language mixing reflects a lack of differentiation of the two languages or other factors and, consequently, whether a one-system or two-system model best describes the bilingual acquisition process.

The aim of the present study is to further investigate the extent to which language mixing in young bilingual children is caused by a lack of code differentiation rather than other factors. In order to study this issue, Redlinger and Park (1980:337) suggest the following:

> Since degree of language mixing is generally regarded as evidence in support of either the one-system or the two-system approach to bilingual acquisition, it is extremely important to study mixing in relationship to overall linguistic growth patterns.

A problem with this approach however, is that there is no way of knowing whether a decrease in language mixing reflects a gradual differentiation of the two languages or other factors such as an increase in the number of translation equivalents. This problem is illustrated by Redlinger and Park (1980:343) in their suggestion that one of their subjects produced a lower amount of mixed utterances than the others 'probably because he was already more advanced linguistically and basically in possession of corresponding lexical items in the two languages at the onset of observation'.

One way of handling this problem would be to carefully study the child's mixed utterances in terms of whether mixing occurs when a word is unknown in one of the languages or when it is known. Such a method however would be extremely time-consuming. Another approach would be to use other measures of code differentiation and investigate the extent to which these correlate with language mixing. This was the approach taken in the present study where two such measures were employed: parents' and experimenters' judgements concerning the child's code differentiation ability and performance in a simple word-naming task.

It would seem up to this point that the question of a one- or two-system model of early childhood bilingualism is mainly of theoretical interest, but this is not so; the question also has important practical implications. Redlinger (1979:26), for example, suggests the following:

> Further inquiry into the mechanisms operating in developmental bilingualism should provide greater understanding of how to better assist the child in becoming and remaining a balanced bilingual and in planning educational programs which will contribute to maintaining that balance.

It is also suggested that the failure to clarify how the young bilingual child learns to separate the two languages may have led to an erroneous assumption that code differentiation is not a problem. If further research supports a two-system theory, this may be the case. If a one-system theory is supported, however, a possible consequence may be that there are differences in how easily children learn to separate the languages with some children suffering a delay. Research can then be focused on the possible negative effects which a delay in code differentiation may have as well as on methods which can help the child to learn to separate the languages.

Method

Thirteen children between the ages of two years-ten months and four years, with a mean age of three years-three months, served as subjects. This age range was

found to be a crucial one with regard to code differentiation in preexperiments where the results showed that children as old as two-and-a-half years had sometimes not distinguished the languages at all, i.e., were still at the one-word stage. Children above age four, however, nearly always spoke each language consistently with native speakers and could verbalize in what contexts each could be used. All of the children were from mixed middle-class, English-Swedish-speaking families living in two large urban areas in Sweden. Three were cared for in the home by parents, three attended a Swedish day nursery and seven attended an English-speaking day nursery. Seven girls and six boys were represented in the sample.

Experimenters

Two experimenters, one English-speaking and one Swedish-speaking, interacted individually with each child. Although both experimenters spoke and understood the second language, the children at all times were led to believe that each experimenter was a monolingual speaker. In addition to parents, experimenters also rated the children in terms of their bilingual awareness.

Word test

A simple picture-naming task was used to determine the number of words known in each language as well as to investigate code differentiation. The pictures were eighty-five colorful real-life photographs of common objects appearing in picture books, one object per page. Because of the use of picture books, the sessions were characterized more by a play atmosphere than a testing situation. The answers were first scored according to how many pictures had been correctly named in each language. Although most children completed both versions of the test, in several cases the child failed to complete one language version. In these cases, scores were determined on the basis of the ration of English/Swedish items correctly identified in completed sections of the test.

Secondly, the children's response pattern was examined as a means of assessing code differentiation. In the literature it was suggested that one sign of code differentiation was when the child ceased to adopt words from one language to the other, instead asking for the corresponding word if it was not known in one of the languages (Imdedadze 1960, in McLaughlin 1978, Swain & Wesche 1975). This observation was supported in prestudies where it was found that in a word test,

younger children frequently substituted the word from the other language for items not known in one of the languages. Older children, however, nearly always stated that they did not know the word and rarely gave a wrong language response.

Thus in the present study, code differentiation was assessed by calculating the percentage of responses in the correct language, in the incorrect language, and those where the child gave an 'I don't know' type response. A lack of code differentiation was felt to be associated with a large percentage of wrong language responses for items not known while the presence of code differentiation was felt to be associated with a large percentage of 'I don't know' type responses for items not known. The percentage of responses in each category was based on the total items answered in each language version of the word test.

Speech samples

In order to investigate language mixing speech samples were collected for each child in two 30-minute sessions, one for each language. The sessions were natural play situations in which the child interacted with the experimenter using toys which were brought especially for the session. These consisted of a farmyard and animals and a toy where the child was required to construct small plastic figures by adding various body parts. The speech samples were taped using a portable Phillips recorder and 90-minute BSAF cassette tapes. The tapes were transcribed immediately following the sessions. The corpus was defined as all utterances which were completely identified or in which the majority of words were completely identified. A small number of utterances containing words which were interpreted, but with some degree of uncertainty, were also included. The speech samples were analyzed for the occurrence of language mixing at the lexical and phrasal levels as well as code switching. Although other types of interference, e.g., syntactic and semantic, were also marked, these were infrequent and were not included in the present analysis.

Parental interviews

The mothers of all the children were interviewed, and in cases where the mother was not the English-speaking parent, the English-speaking fathers were interviewed as well. The parents were asked to provide information concerning the child's language development, observations of the way the child mixed the lan-

guages, and whether or not the child was felt to have differentiated the languages. With regard to the latter, parents were asked to judge the child's degree of code differentiation on a nine-grade scale.

The parents were also asked to write down any additional examples of language mixing or observations concerning evidence of the child's ability to differentiate the languages during the week following the interview. Parents were given a small remuneration for their participation in the study.

Procedure

All subjects were tested in one language on one day and in the second language approximately one week later. Half were initially tested in English and half in Swedish. All were tested in their homes except for the subjects attending the English-speaking day nursery who were tested at their day nursery. For all subjects, testing and speech sample collection was carried out in a quiet room. All parents were interviewed in their homes.

The subjects were first allowed time to become accustomed to the experimenter. This was followed by the picture-naming test (requiring approximately fifteen minutes) and the speech sample collection (thirty minutes). The data thus consisted of two picture-naming tests, two speech samples, and one parental interview per child.

Results

The word test results showed that in the area of vocabulary, most of the children were fairly balanced bilinguals (mean in Swedish = 66.5; mean in English = 59.8). It was predicted that children who had not differentiated the languages would substitute words from the other language for items not known whereas children who had differentiated the languages would state that they did not know the word rather than using a wrong language response. This was supported by the results. In both language sessions, four children more frequently substituted words from the other language for items not known, rather than stating that they did not know the word in English/Swedish. These children were designated as 'code mixers' and will be referred to as Group 1. The remaining children, however, in both language sessions, stated more frequently that they did not know a word in English/Swedish rather than substituting a word from the other language. These children were designated as 'code separators' and will be referred to as Group 2. The mean age of the children in both groups was similar (3;4 in Group 1 and 3;3 in Group 2 (see Table 1)).

The above results agreed with experimenters' and parents' judgements regarding code differentiation among the children in the two groups. According to the experimenters, no child in Group 1 and 5 children in Group 2 were felt to have differentiated the two codes. According to the parents, 1 child in Group 1 and 7 children in Group 2 were felt to have differentiated the two codes.

Even though the vocabulary levels in both languages were similar in the two groups, Group 1 children showed significantly greater mixing in Swedish, t (11) = 3.08, $p < .01$ and in English, t (11) = 2.93, $p < .01$ (Ferguson 1966: 168) than did the Group 2 children (see Table 1).

Five of the 13 children were considered to be fully aware of having two languages by both parents and experimenters. None of these children were in Group 1. These five children mixed very little, i.e., less than 1% of their total utterances in Swedish and 2% of their total utterances in English (see Table 1). They also nearly always stated that they did not know a word in English/Swedish rather than substituting a word from the other language. The youngest child in this group was 2;10 years.

Table 1. Picture-Naming Test Performance and Language Mixing in Two Groups of Bilingual Children (Numbers in Parentheses Refer to Those Children in Group 2 Considered by Both Parents and Experimenters to Have Differentiated the Two Languages).

	Group 1 (Code Mixers)	Group 2 (Code Separators)
N	4	9 (5)
Age	3;4	3;3 (3;5)
English Word Knowledge	64	58 (60)
Swedish Word Knowledge	61	69 (67)
Mixing in English	18%[*1]	2.4%[*1] (1.6%)
Mixing in Swedish	4%[*2]	1%[*2] (0.4%)
Children Classified by Parents as Code Separators	1	7
Children Classified by Experimenters as Code Separators	0	5

[1] $t = 3.08$, $p < .01$

[2] $t = 2.93$, $p < .01$

Qualitative findings

Some of the qualitative findings also gave support for a difference between the Group 1 and Group 2 children. These were related to differences in the use of contentives and functors in lexical mixing, in the occurrence of phrasal mixing, and in code switching ability.

The representation of contentives and functors in lexical mixing

Some of the lexical mixes consisted of contentives while others consisted of functors. Contentives are defined as nouns, verbs, adjectives and other words with high content while functors are defined as inflections, auxiliary verbs, prepositions, and other words that serve primarily a grammatical function in the sentence (see Brown 1965).

The first five examples show the use of functors in the lexical mixing of the subjects while the second five examples show the use of contentives.

(1) He gets piggie dere för ('because') I think that he gonna eat liddle piggies in dere.
(2) And them cannot run nu ('now').
(3) Yeah, liksom ('like') that horse.
(4) It's bara ('just') these coming.
(5) Then the dog också ('also') be scared and he says 'woof'.
(6) It's a gris ('pig').
(7) Dis is a gul ('yellow') one.
(8) Nu blower det. ('Now it blows'.)
(9) Traktorn kommer over fencet. ('The tractor comes over the fence'.)
(10) Dom är kind. ('They are kind'.)

Of the children who were judged to be code separators by both parents and experimenters, when lexical mixing occurred it involved the use of functors rather than contentives in every case except one. Children classified as code mixers or those over whom the experimenters and parents were not in full agreement used both functors and contentives in their lexical mixing.

Further evidence of a lack of code differentiation among the Group 1 children was that often in lexical mixing involving contentives, the child showed knowledge of the word in the other language. Several examples are as follows:

(11) Anna (age 3;4) while unpacking animals from the bag:
E: What is this?
A: It's a gris ('pig').

A few minutes later, naming different animals while talking to herself:
What are dese called then?
Pigs
Also Pigs
They go in here.

(12) Peter (age 3;2) is talking about putting the animals in the barn because there is a storm outside.
Nu blower det. ('Now it blows'.)
One sentence later ...
Nu blåser det, blåser, blåser. ('Now it blows, blows, blows'.)

Phrasal mixing

Although lexical mixing involving phrases was far less frequent than that involving single words, there were a number of examples in the data such as the following:

(13) You coming också med? ('You coming too'?)
(14) Du får inte lie down there. ('You can't lie down there'.)
(15) De kanske ta trees in it. ('They maybe take trees in it'.)
(16) It have to går en till där. ('It has to go one more there'.)

Mixing involving the insertion of phrases from the opposite language as in the above examples did not occur among children who were classified as code separators by both experimenters and parents.

Code switching ability

Code switching occurred both within a single language session and in situations where speakers from both languages (e.g., a parent plus the experimenter) were present. Here code switching is defined as the switching of languages at the sentence boundary, as distinguished from lexical mixing occurring at the word or phrasal levels.

Code switching within a language session appeared to be caused by a number of factors. One of the children code switched in a situation where he was talking to himself rather than to the experimenter. In this example Paul (age 3;6) and the experimenter were playing with the animals and farmyard. The conversation had been predominantly in English when at one point Paul turned away to load some of the animals on the truck. At this point, he switched to Swedish while talking

the role of different animals, including voice quality changes for the antagonist and protagonist.

(17) P: Det finns ingen plats. ('There's no room'.)
E: (pretending not to have heard) What did you say?
P: Det finns ingen plats.
Nej, det finns det inte. ('No, there's not'.)
Jo, dom kan. ('Yes, they can'.)
Nej, du får bara stå där. Uppe på taket. ('No, you can just stand there. Up on the roof'.)

Code switching also resulted from phonetic cues (e.g., overhearing an older brother speaking Swedish) or from being exposed to an activity normally associated with one of the languages for the child (e.g., hearing the ice cream truck outside).

Another example of code switching initiated by phonetic cues was contained in the speech material of a child named Steffan (age 2;10) in whose speech language mixing and code switching occurred frequently. The following example illustrates how Steffan used English when responding to a direct question by the experimenter following which he returned to using Swedish.

(18) Steffan initially speaks only Swedish to the experimenter who does not respond.
E: Can he have that?
S: (switch to English) Mm, he can have that.
Han vill köra da tractor. ('He wants to drive the tractor'.)
E: Who's going to drive?
S: Drive it up there.
Han kör in där. ('He drives in there'.)

The above examples of code switching within a language session, except in one case, did not occur among children judged to be code separators by both experimenters and parents.

Several examples also gave evidence that children who showed an awareness of separate codes may be able to switch more easily between the languages than those who did not during situations in which they were required to communicate with native speakers from both language groups.

Paul (age 3;6) has had an argument with his older brother who has entered the room where Paul and the experimenter are playing. Following this incident, Paul continues to speak Swedish to the English experimenter, the language in which the argument has taken place:

(19) (referring to brother) Han ar jätte dum. ('He's really dumb'.)
För han bara säga '(scream)'. ('Because he just says' '(scream)'.)

It takes several more utterances before Paul has returned to the level of English used before the incident occurred.

This example can be contrasted with the speech material of a child named Christina (age 2;10), judged to have fully differentiated the two languages by experimenters and parents, who appeared to be able to switch easily between the languages when addressing the experimenter and her Swedish mother who was present during part of the session:

(20) Christina turns to her mother asking her to remove her baby brother who is crawling near the toys.
To mother: Kan du ta bort ___ härifran? ('Can you take ____ away from here'?)
(Turning to the experimenter): He want to climb on you.

Discussion

The relation between language mixing and code differentiation in the present study

Earlier research has shown a divergence in views concerning whether language mixing in young bilingual children reflects a lack of code differentiation or is, instead, caused by other factors. The results from the present study suggest that language mixing is, in fact, related to a lack of code differentiation. Children who avoided using their other language in a word test situation when naming pictures of objects which were not known in one of the languages (thus classified as having differentiated the two languages) showed significantly less mixing in their speech than children who freely substituted words from their other language for items not known. These results give support for a one-system theory of bilingual language acquisition (see Redlinger & Park 1980).

Some authors have suggested that language mixing is caused by other factors than a lack of code differentiation, e.g., the lack of a lexical item in one of the languages (see, e.g., Lindholm & Padilla 1977). Although this factor is most probably involved, it cannot account for the findings from the present study which showed that the difference in vocabulary size between the code mixing and the code separating children was not significant. Furthermore, on several occasions, the code mixing children demonstrated knowledge of the word in the opposite language during lexical mixing. This latter result, i.e., that words in the two

languages may have been seen as synonyms by the code mixing children rather than as belonging to separate codes must be treated cautiously, however. For example, Volterra and Taeschner (1978) and Taeschner (1983) suggest that language mixing can occur even if the child has two lexical systems. This is because it involves a great effort for the child to detach the word in everyday use, as he is strongly influenced by the context in which the word was first learned. Qualitative findings also supported a difference between the children classified as code mixers and those classified as code separators. Although lexical mixing also occurred among the code separating children this predominantly involved the use of functors. The occurrence of functors in lexical mixing can also be observed in the speech of adult second language learners and is felt to reflect the interference of overlearned motor patterns from the more frequently used language rather than a failure to differentiate the two codes. The suggestion that phrasal mixing may be a sign of a lack of code differentiation was also supported by several parents' obervations of their younger and older children who were felt to be unaware, respective aware of the difference between the languages. Younger children were discribed as often trying to say something in one of the languages and, if not succeeding, switching to the other language mid-sentence. Older children however more frequently asked the parents how to say a certain word in the other language, thus avoiding a language switch. Finally, children who were aware of the difference between the languages showed evidence of a greater control over the languages than the other children. This was seen in their ability to inhibit the use of a language in situations where its use was not appropriate and in their greater facility in switching between the languges in situations where speakers from both language groups were present. Aronsson (1983) suggests that a greater control over language may be another way of describing an increase in metalinguistic awareness.

Factors influencing the development of code differentiation

An important question raised in the present study concerns why some children appeared to have differentiated the two languages while others, at a similar age and stage of language development, had not. Bergman (1981) suggests that one reason may be individual difference factors; i.e., it is no surprise that children should become bilingual in different ways as there is also a great deal of variation in monolingual acquisition. Redlinger and Park (1980), however, suggest that some answers to this question may be found among sociolinguistic factors. That sociolingiistic factors are involved is supported by several findings from the present study.

In raising a child bilingually, it is frequently suggested to parents that the use of a one person: one language strategy will help the child to differentiate the two languages. Although this may be true, the results have shown that, in itself, a one person: one language strategy may not be sufficient. In two families using this strategy, it was found that although the children associated English with the English-speaking parent, Swedish was spoken to the English-speaking experimenter. Thus, the child appeared not to have generalized the concept of'English speaker' to others. In both of these cases, the children were single children and had had minimal contact with other native speakers, e.g., neither child had ever visited the English-speaking country. This suggests the importance of exposing the child to a variety of situations in which the two languages are used as well as to other native speakers, both adults and children. Here, the children attending the English day nursery may have had an advantage over the other children as they were exposed, on a daily basis, to monolingual speakers from both language groups, resulting in greater practice in language switching and a heightened awareness of the two languages. This increased consciousness of language was mentioned by the teacher who stated that the children frequently played language games in which they pretended to 'speak' Greek, Chinese, Polish, etc. Another factor in helping the child to differentiate the languages may be the extent to which parents discuss the difference between the languages with the child. This was found to vary greatly among parents; in some cases occurring frequently while in other cases rarely or never.

The present finding supported earlier findings (see Arnberg 1979, 1981) that often a dramatic event or experience (e.g., being in a situation where one is not understood by others) greatly facilitates the child's awareness of the two languages, giving insight into the fact that there are two languages as well as situations in which each can be used. Following this insight, mixing appears to show a significant decrease. This is consistent with the suggestion that a major cause for linguistic awareness could be a failure in communication (Levelt, Sinclair & Jarvella 1978). Strömqvist (in Allwood, MacDowall & Strömqvist 1982) also suggests that frustration resulting from the child's suffering a failure in communication may lead to language awareness in that attention may be focused on the factors which have led to this failure. The idea that a failure in communication may lead to linguistic awareness was supported by the data for two of the children who appeared to have differentiated the two languages at a very early age. In both cases the parents described the children as having received a 'linguistic shock'. This had consisted of the children's having attempted to communicate with their English-speaking grandparents in Swedish and not succeeded,

this leading to an experience of extreme frustration. Following this incident, the children's awareness of the difference between the languages appeared to increase dramatically, and they subsequently spoke each language correctly to speakers from the two language groups. It should be pointed out however that it is important that such 'communication failures' occur when the child is cognitively and linguistically receptive. For example, several of the parents stated that at an early age the child seemed not to have noticed that it was not understood by others.

Other purely linguistic factors in the code differentiation process such as the degree of similarity between the two languages must also be considered, however.

The importance of code differentiation

The world as presented through our senses gives (especially children) an overwhelming mass of sensations. Only by attending to selected parts, or to abstracted aspects, of such masses of sensations are we able to deal with them. If a subject is able to verbalize (i.e., is aware of) the relevant parts in a task, learning and problem solving are normally facilitated. Arnberg (1972) developed a method for investigating nonverbalized learning, separating it from verbalized processes. He found that nonverbalized learning was extremely slow.

The findings from the present study have indicated that some bilingual children can verbalize or are aware about their two languages. These children also show significantly less mixing in their speech than children who are unable to verbalize this distinction. In the child's normal development he is sooner or later able to separate the code systems, but even in the present findings it was indicated that there may be a considerable variance in the age at which this occurs. For example, one of the children was reported to have differentiated the languages by age 2;6, while other children showed an inability to differentiate the two codes as late as age 3;8. In a larger population it would be expected that even older children might be found who were unable to attend to the relevant aspects of the two language systems. It should also be pointed out that the code separators were not particularly trained in this ability. Thus, if training methods were to be used, children might learn to be able to differentiate the languages at an even younger age.

Why should we worry about this problem when the child, by itself, appears to learn to distinguish the two codes? The reason is naturally that an awareness of the two language systems can be expected to facilitate the child's language

learning, and at this early age when a number of vital processes are developing, e.g., the transformation of private speech into verbalized thinking, this could mean the difference between success and failure. A child who has difficulty in separating the languages may be delayed in the development of private speech, this providing a serious impediment to the development of verbalized inner speech as a support for thinking.

The above discussion emphasizes the need for methods which can be used to help children learn to differentiate the languages. The process of making the child aware of the two languages has, we believe, been used more or less consciously by several of the parents. If these methods can be isolated, they could be taught to all parents with bilingual children who show evidence of confusing the two languages. In this way it may be possible to eliminate one of the possible risks associated with infant bilingualism so that children can benefit from the positive aspects of bilingualism acquired during the early years.

Footnote

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THE PROBLEM OF DIVERGENCE IN TRANSLATION - A MODEL FOR DISAMBIGUATION

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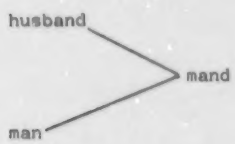
DIVERGENCE looms like some ominous spectre on the horizons of all those who have made inter-language transfer their business - traditional translators, teachers and students of foreign languages, as well as those engaged in research. Even the latest computer-aided translation techniques have not so far succeeded in finding complete or satisfying solutions to the problem of DIVERGENCE. The battle is still being fought in guerrilla skirmishes, with obsolete weapons - shots in the dark, on a hit or miss basis - trusting to luck that the result will be adequate; and, if it is not, cutting the losses with a shrug, and a mutter that translation evaluation will always be subjective anyhow!

But this doesn't let the linguist off the hook. Translators in the world of translation tomorrow are going to need formal procedures: the unformulated intuitions and experience of human translators can be systematized to provide some of them: One such procedure could be a disambiguation model elaborated to handle target language divergence.

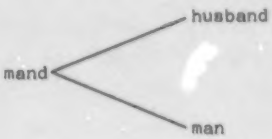
The terms 'Convergence' and 'Divergence' are used here, firstly, in the sense in which they have been used by Weinreich, Carroll and others, to denote the plurality of semantemes in the Source Language, which merge, or 'Converge', in the Target Language, and vice versa.

> "Often 2 existing semantemes, X and Y, of one language are merged on the model of another language, where the combined content of X and Y is represented by a single sign, Z." (Weinreich, U. quoted by John B. Carroll in "Linguistic Relativity, Contrastive Linguistics and Language Learning", International Review of Applied Linguistics, Vol I. No 1, 1963).

Convergence: Eng - Da

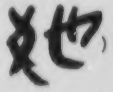


Divergence: Da - Eng

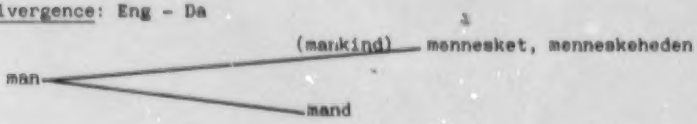


Partial divergence: Mandarin - Da

3rd person sing. pronoun t' a

(partial because "hun" may be graphically realised as )

Divergence: Eng - Da



Where the signs merge in the Source Language, the term used is divergence. Where the signs merge on the Target language, the term is convergence. Evidently, it is divergence, rather than convergence, that produces problems for the translator; consequently, divergence is what I propose to consider here.

I have chosen to expand Weinreich's definition to include homonyms or polysemes, and TL synonyms, for two reasons: - firstly, because these may prove just as confusing as the other forms of divergence - those where, for instance, a 'portmanteau sign' corresponds to a blank at the level of superordinate sign or classifier in the target language: Carroll states: "it has been pointed out that Chinese has a term for the whole class of objects that must be designated in English as either fruits or nuts". In effect, this particular situation is both well-known and multifarious. The notorious proliferation of Chinese classifiers is one of the bugbears encountered by the Occidential learner.

E.g. = Pĕn^{3} (classifier of books, documents, root, source)

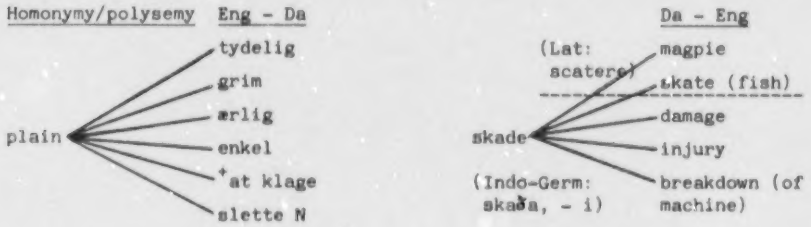
= Ting^{3} (classifier of hats, buttons, top, button)

- secondly, because componential analysis of semantic content has in many cases failed to establish an inventory which makes it possible to itemise the essential semantic components of lexical items. Lacking such theoretical basis, 'combined content' (fig. 1) is an arbitrary entity, difficult to identify and equally difficult to work with. Linguistic relativity - the systematic differences between the representational systems of two languages - and its implications for language teaching and translation, have inspired several linguistic

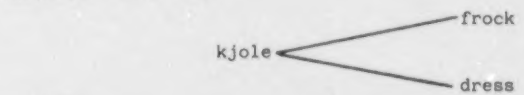
studies. (The names of Whorf, Hjelmslev, Carroll and Fishman spring to mind).

Carroll sees a need to expand Weinreich's 'divergence' paradigm for lexicon into morphology and syntax. The aim is to provide a basis for the identification of differences in the referential systems of the TL and the SL and so to deal efficiently with DIVERGENCE and comparable problems.

In the interests of this aim, and for the other reasons stated, I have, therefore, expanded the definition to include synonyms and homonyms (or polysemes, depending on your line of approach).

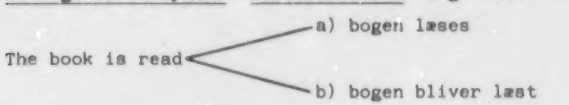


+(using etymology as a guideline, the most striking homonym is plain, archaic but active in compounds, 'to complain', from plangere, whereas the others derive from planus or planum, through French, plein, plain). The others are polysemes. The Danish examples may be described as homonyms, as the words have different etymologies. The question is whether, and to what extent, one accepts etymology as the yardstick for differentiating between homonyms and polysemes, and whether - except to linguists - the distinction between these categories has other than academic significance.



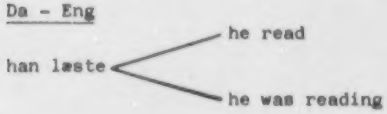
('quasi synonyms')

The present study concentrates on the syntactic and lexical levels, and considers utterances comprising word, group and sentence. There is no doubt that studies in morphology, and studies at text level, would provide additional and supplementary material.



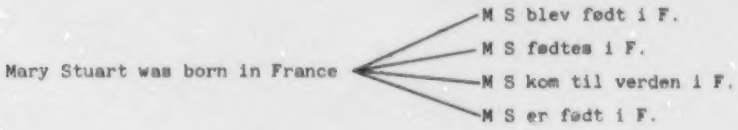
While both may be claimed to translate the SL sentence, a) may in addition have overtones of imperative ('Hele bogen læses til på mandag'), b) may express future time: e.g. 'Jeg kan forsikre Dem at bogen bliver læst med stor interesse'. (Publisher to would-be author!).

Da - Eng

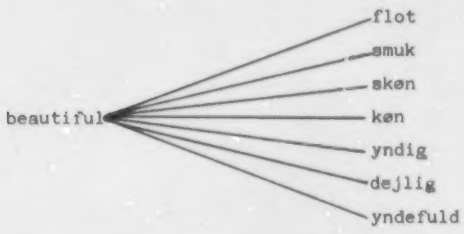


(aspectual differences may be partially disambiguated at textual level or by other elements in the immediate co-text e.g. han sad og ....)

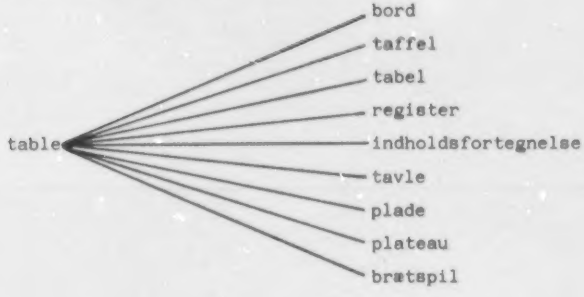
Eng - Da



Lexis. Synonymy: Word level. Eng - Da



Polysemy: Word Level. Eng - Da



Synonymy: Sentence level:

Supposedly cognitively synonymous utterances may be stylistically, connotatively and collocatively distinguishable.

e.g. My father died
My beloved male parent joined the heavenly choir
My dear father has passed away
The old man kicked the bucket

Polysemy. Sentence level. Eng - Da

Mr. Lyons is round at the back
a) Mr. Lyons befinder sig i baghaven/baglokalet
b) Mr. Lyons er en noget korpulent person

Disambiguation by context, style level, 'register', etc. is indicated.

Methods for Disambiguation

Disambiguation by predictability and collocational factors: Computer-aided translation devices can at present deal efficiently with certain instances of synonym-related or polysemious divergence through a species of superstructure to Katz and Fodor's famous 'bachelor' set. (Katz, J.J. and J. Fodor, 'The Structure of a semantic theory: LANGUAGE E39 (1963) 170-210).

Disambiguation

e.g. (from the LOGOS programme)

DER MANN MIT DER LEISEN STIMME HATTE EINE LEISE AHNUNG, DASS ER EINE LEISE ERKÄLTUNG HATTE.

leise + Stimme = 'low'
leise + Ahnung = 'vague'
leise + Erkältung = 'slight'

='The man with the low voice had a vague feeling that he had a slight cold'

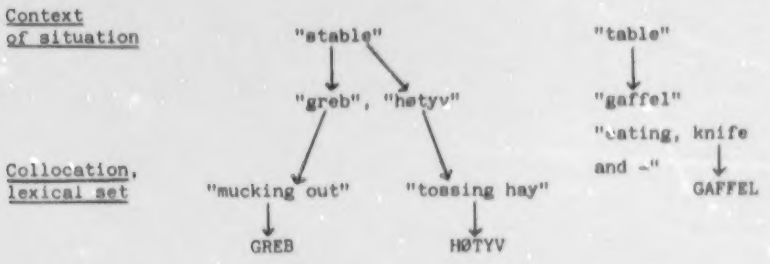
In cases of polysemy/homonymy, word class may first need to be identified by the sort of syntactic and morphological grid which experienced translators have always applied intuitively:

Eng - Da: Fork

Word class indentification

	Morph.	cotextual environment	function
Noun	plural?	+ Determiner? + adjective?	subject? object? governs preposit.? etc., e.g. Complement?
Verb	tense? person? participle?	+ infinitive "to"? + auxiliary? + catenative? + adverb?	operator?

Once "fork" has been identified as, for instance, "noun", the thesaurus-based dictionary suggests solutions: By following the semantic paths, selection is made on the basis of the cotextual environment: e.g. "fork = gaffel, greb, høtyv, arm, gren, skillevej, skridt, spids".



Register markers such as "LSP" or Language for Specific Purposes – of various kinds (legal language, etc, or styles, such as "slang"), may help to disambiguate.

e.g. Eng - Da

Breeder → (LSP) - atomreaktortype (fagsprog)
Breeder → (LGP) - opdrætter (unmarked) (alm. sprog)
Breeder → (gay slang) - en heterosexual (bøsseslang)

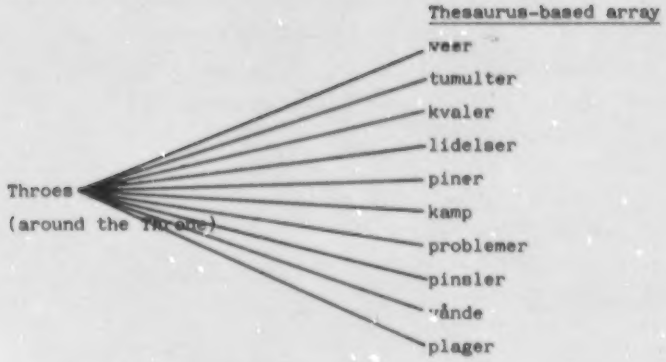
Procedures for selection between synonyms. Reverting to the earlier example, "beautiful": A grid with various relevant dimensions (relevant for the text type, genre, etc.) is established. The weighting attached to the various dimensions or parameters and to additional ones such as "metaphor", "educational level of interlocutors", "status", "slang, LSP, elevated style" etc., is decided by the text type and the context of situation.

"Beautiful"	Collocation	formality	relative frequency	irony	social usage	Connotations
smuk	diamant landskab		+			often external appearance
flot	bil, fyr, ben, gave	+	+		juv.	valuabel, glamorous
skøn	ferie, tøj	+	+			affected? dated? "modish"
yndig	kjole	+	+	+	+of/by men	graceful
dejlig	vejr, menneske middag, aften	+	+	+	juv.	v.general cliché
yndefuld	ballet danser bevægelse	+	+	+	+of/be men	graceful
køn	hest, hund, pige			+		external

"Register-related" features

While such a grid may be able to provide a solid foundation in most cases, at the limits of translatability it will not be able to solve some problems. The Sunday newspaper headline: **"Throes around the throne"** is a case in point: Text type: informative. Genre: political feature article, Sunday newspaper. Subject matter: China after Mao's Death. This referential text type displays "literary" features e.g. metaphor, alliteration, low frequency terms of relatively "bookish style"

Eng - Da



Throes around the throne = headline. Isolated from text, and yet text provides the whole context. Group level utterance (not full sentence). No cohesion. No anaphoric reference. Conceptual meaning: agony, struggle. Collocation: "death throes", "throes of childbirth". Metaphorical (often ironic): "throes of spring cleaning", "in the throes of a messy divorce". Connotations reflect collocations: death, pain, struggle against overwhelming odds. "Register": position on a frequency cline = relatively low frequency. Alliteration: effective, racy, slightly ironic (esp. "Throne = consciously incongruous in the context of the post-imperial, communist régime).

(ARBITRARILY ORDERED ATTRIBUTES ON THE BASIS OF APPARENT RELEVANCE FOR THIS SPECIFIC CASE)

"Throes"	veer	tumulter	problemer	kvaler
conceptual	+	+	+/+	+
meaning	+	+	+	+
metaphor	+	+	+	+
connotations	+	+	+	+
alliteration	+	+	+	+
low frequency	+	+	+	+
formality	+	+	+	+
style level	+	+	+	+
dramatic effect	+	+	+	+
irony/hyperbole	+	+	+	+
marked for plural	+	+	+	+

The translation "problemer" earns a plus because it reflects the cognitive meaning of which "throes" is a more dramatic and figurative representation.

Although the model may in some cases (such as "throes") not prove powerful it is capable of expansion and development. The importance of disambiguation has always made its presence felt in traditional textual analysis and translation studies: it becomes no less important today in the age of Computer Aided Translation. While traditional translators can call on experience and intuitions, unambiguous and systematic ordering of procedures is essential for the effective functioning of the machine and helpful for training the new translator. Most C A T processes can still only compete with polysemy and perform simple selection operations between variables or synonyms in a limited number of cases. Post-editing by human translator or reviser, still a crucial part of the procedure, could be simplified by more powerful machine-readable procedures for disambiguation and text-related selection with a stylistic component catering for connotational meaning. The method for constructing a grid is more important that the elaboration of any one specific model. Systematic and logical, the procedure must at the same time be sufficiently elastic to allow text type and subject matter-related elements to be interchanged; We should recognise the need to analyse the intuitive processes by which translators reach solutions that we can consider adequate, so that machines can be programmed to take over the drudgery, leaving tomorrow's translator to skim the cream.

THE RECEPTION OF ENGLISH LOANS IN SWEDEN

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This paper discusses the reception of ten different types of English loans and a rank list is presented. This is followed by a discussion of the influence of social factors and it is shown that age is the most important determinant of loan use. The paper ends with a demonstration of certain regional differences.

1. Over the last 20 or 30 years, Sweden and most other countries have been submitted to massive and ever-increasing cultural and linguistic influence from the English-speaking countries, above all the US and Britain. Although certain isolated studies of this have been made, like e g Söderberg's study of the s-plural in Swedish, there has on the whole been a remarkable lack of more wide-ranging and sustained efforts to assess the nature and amount of this influence. In order to at least begin to remedy this, the project EIS (English in Sweden) was started at the department of English at Stockholm university in 1981. The results of our work have been published both in a number of reports directly tied to the project and in papers published elsewhere, like e g Ljung 1984.

The bulk of the work done so far has been concerned with the evaluation of the responses to a questionnaire used with 1950 informants. Part of the questionnaire was given up to questions asking the subjects responses to three different types of English loans into Swedish, the direct loans (DL) like boots, You bet inserted into otherwise Swedish utterances; the translation loans (TL) which in most cases come about through the addition to a Swedish word already in existence of a sense previously only found with the English counterpart of that word, as in köpa ett argument "buy an argument"; and the construction loans (CL) where the influence from English has affected Swedish syntax or word formation, as in De visste inte vad göra "They didn't know what to do".

Detailed information about matters such as methods used for selecting examples, the selection and composition of the sample and the response rate can be found in Ljung 1982 a and b. In the present paper, I will take a closer look at the linguistic categories DL, CL and TL which will be purged of a few doubtful examples and broken down into smaller and, it is hoped, more informative subgroups. I will then see whether this affects the overall picture of what linguistic categories are most and least likely to catch on,

and whether these new and more "telling" linguistic categories will make it possible to detect more definite differences between those Swedes who do and those who do not approve of the the different loan categories.

2. It was found in Ljung 1984 and elsewhere that the type of loan most likely to find favour with Swedish speakers were the TLs. This is of course quite natural and altogether to be expected, since many of the examples in this category were regarded as native Swedish by the participants. It was also found that the DLs and CLs were ranked about the same and were both considerably less popular than the TLs. These differences can be expressed in a number of ways. In what follows I will use the mean of the positive replies to the question "Would you use this expression yourself?". Since the number of examples in the different categories differ, just giving the means would not be very informative. Instead I have chosen to express the mean as the percentage of the maximum theoretical mean that it represents. Thus, since the mean for DL is 9.4 and the total number of examples in DL was 24, the percentage of 24 represented by 9.4 is 39%. The values for TL and CL have been recalculated in the same manner and entered into the table below expressing the rank order relationship between them.

TL	50%
CL	40%
DL	39%

Table 1. Reception of TL, CL and DL.

The categories DL, TL and CL were also correlated with the social variables sex, age, occupation, education and domicile. Age was divided into six subgroups i e TEEN 15 - 19, YOUNG 20 - 34, MID 35-49, MIDPLUS 50 - 59, SENIOR 60 - 64 and OLD 65 and upwards. Since there were only 7 members in the OLD group it has been disregarded. In occupation a distinction was made between BUSINESSMEN, PROFESSIONALS, STUDENTS, WORKERS and UNCLASSIFIABLE, and in education we distinguished between those who had completed university education (CU), those who had completed some kind of secondary education (CS), those with a completed primary education (CP), and those with no completed education at all (NCE). Domicile is a tricky variable; following a suggestion

by the Swedish Central Bureau of Population Statistics (SCB), we grouped places where people lived into seven categories. The principles underlying the grouping has been explained in detail in Ljung 1984 and will not be gone into here. Suffice it to say that we distinguish between STOCKHOLM, GÖTEBORG, MALMÖ - the big cities -, TOWNS which have a population of more than 90000, SST - "small southern towns" - and SNT - "small northern towns" - both with populations between 27000 and 89000, and SPARSE which stands for everything else.

We can make short shrift of the results of the correlation between DL, TL and CL and the social categories just explained. The results can be summed up succinctly by saying that no great differences between social categories were found except in the case of age, where it turned out that there was a difference between the young and the old (TEEN + YOUNG vs SENIOR) which grew more and more pronounced as we progressed from TLs to CLs and DLs. In the case of DLs the difference was one of 46% mean for TEEN as opposed to 27% for SENIOR. We also found a statistically significant difference with regard to DL for SNT and the rest of the country.

3. One of the drawbacks of previous studies was the fact that while rather fine distinctions were made in social variables, the linguistic categories have been the far from homogeneous groups DL, TL and CL. But this does not have to be so. In fact considerable planned diversity was built into these categories from the very beginning: in my choice of examples I tried to include as many structurally different types of loan as possible. In DL, for example, a distinction was made between loans which are words (DLW) and loans which consist of phrases (DLP); a further subdivision was also made into words and phrases which have become assimilated to Swedish and those which have not. In the rest of this study assimilated English words will be referred to as ASSDLW, assimilated English phrases as ASSDLP, non-assimilated words as NASSDLW, and non-assimilated phrases as NASSDLP. By assimilated word I mean a word that has been given Swedish spelling, or has been combined with a native Swedish word or affix. By assimilated phrase I understand a phrase which is used as part of an otherwise Swedish utterance unit, as in e g 35 K Han är inte så dum you know. In one instance I have used function rather than form in deciding what should go in the phrase category: I decided to count Sorry in 35 N - Sorry men ... as a phrase rather than as a single word.

In the TL category, a distinction was made between translation loans that are words and those which are phrases, and for the construction loans a first distinction was made between loans affecting word-formation and loans bearing on syntax or other matters.

On the whole, questions 35, 36 and 40 correspond to the categories DL, TL and CL. In a few cases I have corrected what seemed to be mistakes in the original classification however. Thus 35 F - testa att - has been entered both among the DLs - the assimilated DLS to be exact - and among the syntactic construction loans. There are other additions to the CLSYNTs: 36 Q - poänglöst att ... - struck me as a syntactic loan rather than as a translation loan, but unlike 35 F, 36 Q has not been retained in its original category.

In addition to the categories introduced above I have kept the sections on the English plural and spelling - ENGPLUR and ENGSPEL - and have in addition established a category ENGSMS and four categories having to do with the use of the apostrophe genitive. I will comment on these presently. I now proceed to give a full presentation of the new linguistic categories and their members.

NASDLW: image, mix, action, touch, super, display, blackout, flop, boots (35 a, b, e, g, h, i, l, o, s in the questionnaire).

ASSDLW: slimmad, containervis, tajt, testa (att), telexa, kingsize-format, pre-testad, floppa (35 c, d, f, j, m, p, t; 40 m).

NASSDLP: I don't think so, Too bad, You bet, You're welcome, Just a minute (35 r, u, v, x, y).

ASSDLP: Han är inte så dum you know, Sorry men ..., Keep smiling bara ... (35 k, n, q).

TLW: säljer bra ("sells well"), köpa ett argument ("buy an argument"), ett måste ("a must"), det lokala sjukhuset ("the local hospital"), stenad ("stoned" = "under the influence of drugs") (36 a, b, h, k, m).

TLP: upp till honom ("up to him"), leva upp till ("live up to"), (en mästare) i sin egen rätt ("a master in his own right"), se ut som en vinnare ("look like a winner"), godta nej för ett svar ("take no for an answer"), Ha en trevlig dag!("Have a nice day"), vara i samma liga som ("be in the same league as"), få kalla fötter ("get cold feet"), i termer av ("in terms of"), nu är katten ute ur säcken ("the cat's out of the bag") (36 c, d, e, f, g, i, l, p, r, s).

CLWF (construction loans word formation): motor båt ("motor boat"), syntet bensin ("synthetic fuel"), filmmakare ("movie-maker"), halvtidare ("half-timer"), ko-skribent ("co-writer"), gultakad ("yellow-roofed")

(39 l, n, 40 a, l, n, q).

CLSYNT (construction loans/ syntax): testa att ("test + V-ing"), poänglöst att ("pointless to"), han är en läkare ("he is a doctor"), största svenska segern någonsin ("greatest victory ever"), man = du den förste svensken att emigrera ("the first Swede to emigrate"), Var den stor! ("Was that a big one!"), ägarna av butiken ("the owners of the store"), de visste inte vad göra ("they didn't know what to do"), På den summan kan ingen leva, säger Göte Wärnell, 47, Kungsbacka("... says G.W., 47, K.") (35 f, 36 q, 40 c, e, f, q, i, j, k, p).

GEN: Kalle's bil ("Kalle's car"), Köp maten hos Kalle's ("Buy your food at Kalle's") (Questions 39 m, o).

ENGSMS: motor båt ("motor boat"), syntet bensin ("synthetic fuel") (Questions 39 l, n).

The choice of examples was made in accordance with certain principles. The main principle was that all examples must have actually occurred in Swedish between 1981 and 1982; it was adhered to in all cases except three, viz 40 k, p, and l. I also required that all examples should be recent enough not to be found in the then latest edition of the word-list of the Swedish Academy (SAOL), and that they should belong to the "everyday vocabulary". As always in the case of translation and construction loans, it is a matter of guesswork whether any given loan really reflects the influence of language A on language B, or whether the item in question has simply developed independently in language B. A certain number of items originally included in the questionnaire have been dropped, on the grounds that they did not, on second thought, comply with these principles. For the benefit of non-Swedish readers, a few explanations concerning the examples are given below in addition to the translations given in parentheses above. The inclusion of gultakad in CLWF was made to permit a comparison between the applicability of this word-formation pattern in English and Swedish. My impression is that this pattern, which has up to now been much more viable in English than in Swedish, has recently been "reactivated" in the latter language. The item testa included under CLSYNT, has a long history in Swedish; however, the construction testa att ("try + V-ing"), is quite new. It is not entirely clear that this development is due to the influence from English, since the combination test + to does not exist. The case of poänglöst att is similar. There has long existed a word poänglös in Swedish as in e g En poänglös historia ("A pointless story"), but the combination with a following att plus an infinitive is new and in

all likelihood the result of English influence. Traditionally, the Swedish for He is a doctor and similar indications of what people do for a living, has been Han är läkare, i e unlike what is the case in English, there is normally no indefinite article. However, according to e g teachers of Swedish, the construction with the indefinite article is now gaining ground in the speech and writing of young Swedes. The man = du example reflects the fact that while Swedish du ("you" singular) has not previously been used in the indefinite inclusive sense "you, I and others" found so often with you, this seems to be changing. Den förste svensken att + infinitive used to be expressed by the sequence Den förste svensken som ... ("The first Swede who" + finite verb) and I do not think it too farfetched to regard this as the result of the influence from the English construction the first Swede to .... Var den stor! used as an exclamation calls to mind Americanisms such as Is she beautiful!, ägarna av butiken which used to be ägarna till butiken seems to reflect the influence of the owners OF the store, and the example with GÖte Wärnell echoes the style found in American publications like Time and Newsweek. In GEN the two constructions included test the apostrophe genitive construction in two Swedish environments, the first one an ordinary genitive, the second the genitive in the name of a store. In ENGSMS, finally, I have included what seems to be a recent trend in Swedish spelling, i e the growing tendency to insert a space between the elements in nominal compounds. This is an interesting development, not only because it may reflect influence from English compounds like motor boat and car thief, but also because this new orthography should affect the pronunciation but apparently does not.

4. Before we go on to consider how the new linguistic categories correlate with the social variables, let us see what the overall means for their use are and compare them with the means obtained for the undivided categories DL, TL and CL. As we remember, the means for these were 50%, 40% and 39% when expressed as percentages of the maximum possible mean for each category. There was, in other words, a marked tendency for the TLs to be the type that people were the most disposed to use, with the CLs and DLs lagging a good 10% behind. Contenting ourselves first with a breakdown into the categories DLW, DLP, TLW, TLP, CLWF and CLSYNT, we find this rank-order pretty well confirmed, as Table 2 shows (and in which both the actual mean

for "would use" and the total number of examples in the category are given in addition to the percentage).

TLW	2.71/5	54%
CLSYNT	4.7/10	47%
DLW	7.8/17	46%
TLP	4.3/10	43%
DLP	1.9/8	24%
CLWF	1.4/6	23%

Table 2. Rank order of new loan categories, first breakdown.

What we find here is the familiar pattern indicating that the items getting by far the widest circulation are the translation loans that are words, i e items like sälja (bra), "sell well", and köpa ett argument "buy an argument". In second place we find a group consisting of the direct word loans, the syntactic loans and the translation loans that are phrases, i e items like action, boots and testa att, den största svenska segern någonsin "the greatest Swedish victory ever", and godta nej för ett svar "take No for an answer".

At the bottom, we find the direct loans that are whole phrases and the constructions resulting from English influence on word formation, i e items like You bet! and gultakad "yellow-roofed". What we learn from Table 2 is that there is a great difference in speakers' willingness to use CLSYNT vs CLWF, and DLW vs DLP. We may conclude, therefore, that it was wise to split up the monolithic DL and CL into words vs phrases and syntax vs word-formation.

However, as we know, it is possible to subdivide our categories even further, DLW into NASSDLW and ASSDLW, and DLP into NASSDLP and ASSDLP respectively. If we enter these into the table in the place of DLW and DLP we get the following results:

NASSDLW	4.9/9	55%
TLW	2.71/5	54%
CLSYNT	4.7/10	47%
ASSDLW	3.6/8	45%
TLP	4.3/10	43%
ASSDLP	.8/3	28%
CLWF	1.4/6	23%
NASSDLP	1.0/5	20%

Table 3. Rank order of new loan categories, second breakdown.

We now have a new and interesting picture of the loans. It turns out that the loan type most likely to be used are the unassimilated English word loans, which get a ten percent better treatment than their assimilated cousins; who would have thought that it is much easier to take words like mix, action and touch to one's heart than slimmad, testa att, and telexa? We also find that, in the case of English phrases, assimilation has the opposite effect: here it is the assimilated loans like Han är inte så dum, you know that rank highest, with a mean of 28% while the unassimilated phrases like You bet! etc get 2%. In addition to the eight categories of loans discussed above there are also two minor linguistic loan-types worth considering, i e the English-inspired tendency to spell Swedish nominal compounds with a blank between the elements, and the use of the apostrophe genitive with native Swedish nouns.

The mean for the first type (ENGSMS) is extremely low, .13 out of a theoretically possible 2 i e 6.5%, which is surprising in view of the popularity the type seems to be enjoying in today's Swedish.

We may note that the two examples - motor båt and syntet bensin are treated very differently, with only 2% of the participants willing to use the first, but 12% willing to use the second.

The mean for the use of the apostrophe genitive is higher: .38% out of a possible 2, i e 19% of the theoretically possible highest mean. Here, the difference between the two cases involved is greater: predictably Kalle's bil was liked by only 2% of the subjects, while Köp maten hos Kalle's "Buy your food at Kalle's", was a construction that 30% of the subjects were willing to use.

The results above are interesting. However, before I go on, I would like to stress the limitations of the material used here. We are using

a small number of items to draw conclusions about the relative popularity of different loan categories. Because of the smallness of the sample, the individual characteristics of each item assume an unhealthy importance. The popularity of loans is affected by a great number of non-linguistic matters, whose importance it is often impossible to assess, like the general nature of the referent - technical vs non-technical, sports vs non-sports, etc -, the visibility of the person using it, and the impact of the medium in which it is used, to mention only a few of these uncontrolled-for variables. Add to these the fluctuations in the personal habits of the subjects - avid newspaper-reader vs exclusive TV-watcher etc - and it is easy to see that all conclusions regarding the linguistic determinations of the popularity of the loans deserve to be taken with a pinch of salt.

If, nevertheless, I am willing to put a certain amount of trust in my material, it is because I know that all except three of the examples used have actually appeared in (mostly newspaper) Swedish between 1981 and 1982 and because the number of participants is as high as 1950, a fact that ought to ensure that the more extreme fluctuations in social group membership and personal peculiarity are evened out.

5. Let us now consider how a person's social affiliations affect his attitude towards the loan-types described in the preceding section. We will start by looking at the results of an analysis of variance programme involving sex, age, education, occupation and domicile as independent variables, and each of the loan-types in turn as the deperdent one. The results are shown below in Table 5.

	SEX	DOMI	OCC	EDUC	AGE
NASSDLW	35.9/99	4.2/99	9/99	7.33/99	85.4/99
ASSDLW	- -	3.7/99	- -	5.6/99	26.7/99
NASSDLP	4.9/99	33.6/99	10/99	9.7/99	24.1/99
ASSDLP	6.4/99	- -	8.1/99	7.9/99	17/99
TLW	7/99	- -	5.9/99	2.9/99	31.1/99
TLP	- -	- -	4.3/99	3.12/99	14.6/99
CLWF	18.9/99	- -	10.4/99	11.7/99	6.9/99
CLSYNT	13.7/99	3.4/99	12.6/99	8.7/99	33.5/99
ENGSMS	- -	- -	7.9/99	5.3/99	3.5/99
GEN	- -	- -	8.4/99	6.2/99	11.4/99

Table 5. ANOVA for the new loan types and social variables.

In Table 5 we find the F-values for each intersection of a social variable and a loan-type, followed by an indication of the level of confidence with which the social variable can be claimed to affect the subjects' willingness to use the type of loan involved (i e with which the null hypothesis can be rejected). A table like 5 does not, of course, give us information about the effects of the individual levels within each social variable, but it does provide interesting insights into the number and nature of the social variables that are critical with regard to each type of loan. From the F-values we can also get an idea of the relative importance of each social variable.

As Table 5 shows, we can rank the five social variables with regard to how many loans they are critical for: age and education are both involved in all ten loan-types and occupation in nine; then there is a drop to sex, which affects the decisions only in six types, and finally domicile which affects only four. We also find that three of the loan-types - NASSDLW, NASSDLP and CLSYNT - are affected by all five social variables while ASSDLP and CLWF are affected by four and ASSDLW, TLP, ENGSMS and GEN by three. GEN, ENGSMS and TLP are similar in not being affected by sex and domicile, ASSDLW is not affected by sex and occupation, while in ASSDLP and CLWF it is domicile that can be ignored.

All the social variables that have an effect on the decision to use a particular loan-type have it at the 99% level of confidence, but the F-values are very different and provide information about the relative importance of the social variables. Thus in eight out of ten types of

loan, age is the most important influence by far, sometimes with F-values ten times greater than those for many other social variables. Education and occupation are important for almost all the loan categories, but do not show very impressive F-values. All the F-values for domicile are low, and it is sex that has the most impressive single F-scores after age: 35.95 for the non-assimilated English word loans, and 18.91 - highest of all - for the word-formation constructions influenced by English.

But although these figures give valuable information about the relative importance of the social variables, they do not tell us just what particular levels are important, nor whether the influence is positive or negative.

A natural first step in an attempt to gain insight into the importance of the individual values in the social variables is to examine their means with regard to the unassimilated direct word loans. These means have been listed in order of descending frequency in the table below. For the sake of comparison it should be kept in mind that the overall mean for NASDLW was 4.97.

VALUE	MEAN
YOUNG	6.0
STUD	5.93
TEEN	5.78
MALMÖ	5.47
CS	5.3
MALE	5.28
UNCLASS	5.15
STHLM	5.14
SPARSE	5.11
NCE	5.0
SST	4.97
TOWNS	4.95
WORKER	4.91
BUSINESS	4.88
PROFESS	4.82
GBG	4.8
CU	4.78
CP	4.74

cont.	VALUE	MEAN
	FEM	4.69
	MID	4.6
	SNT	4.19
	MIDPLUS	3.56
	SENI	3.19

Table 6. Rank list of means with regard to NASDLW.

The list in Table 6 is interesting in several respects and shows, for example, the crucial importance of the two opposite poles of the age scale, with YOUNG and TEEN very much in favour of the NASDLW, and MID, MIDPLUS and SENI very much opposed to them. It is of course also obvious that a list like this leaves unanswered the question of what the relations between the values are. We may wonder, for instance, whether a category like e g PROFESS owes its position to some intrinsic quality that professionals have, or whether it is due to some incidental property of this group, like their age, sex, education or domicile.

In order to answer questions like these, we have to take a look at constellations of values from the different social variables using the time-honoured technique of keeping one factor constant while varying the rest. A full-scale investigation along these lines requires that we look at all five social variables. There are a number of problems associated with such an undertaking, however, in particular the sheer number of constellations to be examined and the fact that many of the resulting groups will have only one or two members. On account of this, I have chosen here to work with combinations of three variables.

Even with that reduction the investigation remains a fairly comprehensive one, and it would be unrealistic to attempt a detailed account of it in a paper of the present kind. In the following presentation I will therefore content myself with highlighting the main trends in the material and taking a close look at only one of the social variables, i e DOMICILE.

Working with combinations of three variables and keeping one constant, means examining, for each variable value, the means of six two-combinations in that particular environment. In the case of DOMICILE, for example, we have to investigate the means for SEX + AGE, SEX + OCCUP,

SEX + EDUC, AGE + OCCUP, AGE + EDUC, and OCCUP + EDUC. All in all there is, for each individual value, a total of 23 constellations to examine.

As a first step in this analysis, two-way tables like the one in Table 7 were constructed. In these tables, the horizontal axis presents the distribution of means (in the value under inspection) over five "frequency bands", while the vertical dimension contains the six combinations of social variables.

	0 - 2.99	3 - 3.99	4 - 5.99	6 - 6.99	7 - 10
DOMI/OCCUP	0	5	799	77	11
DOMI/EDUC	0	31	751	107	3
OCCUP/EDUC	0	10	659	221	2
AGE/EDUC	0	186	372	321	13
AGE/DOMI	16	150	371	306	49
AGE/OCCUP	17	174	360	340	1

Table 7. Distribution of NASDLW mean for MALE.

As will be apparent, the data has been arranged in order of descending frequency of the dominant frequency band, in this case - and almost all others - the 4 - 5.99 band. For example, in a sort procedure for MALE based on DOMICILE and OCCUP, there is little variation; out of a total of 892 males, 799 (90%), show means in the 4 - 5.99 range.

A table like the one above does not show anything of the variation due to the individual values in the social variables. Still it does tell us something about the relations between the different social factors involved. In fact Table 7 is typical in the way the three age-related combinations turn up at the bottom of the scale. As the dotted lines in the table indicate, the data fits into a triangle with the apex at the top of the scale and the base at the bottom. The reason for this is that as the values in the dominant frequency band decrease, those in

the adjacent bands increase, i e the closer we get to the base of the triangle, the greater the variation in the subjects' willingness to make use of NASDLW. What we get here, in other words, is a clear indication of the enormous pressure that the AGE variable exercises on all other social variables and it is interesting to note, therefore, that this is a pattern that recurs in almost all the cases where age is involved as a variable factor. One of the few cases where this is not true will be discussed presently. What tables like 7 also show is the fact that the impact of age varies with the factor it combines with. This variation is not particularly pronounced in the case of MALE but is quite important in other cases.

Before proceeding to my final discussion of differences among domiciles, I will present very briefly some of the main findings about the influence of other social factors on attitudes towards NASDLW. As predicted by the F-values the next most important variable after AGE is SEX. There is a marked tendency for women to have lower NASDLW means than men, although we do find variation here too as for instance in Malmö, where there is heavy male predominance among those who are not in favour of NASDLW. On the whole, however, in most environments the polarizing male:female effect tends to eliminate whatever other factor they combine with (with the exception of age).

Both AGE and EDUC show important differences in the sensitivity of the different values to influence from other factors. Thus in AGE, the difference between the highest and the lowest values in the dominant frequency band is rather small for all categories except TEEN, where there is a difference of 43%. TEEN has virtually no means below 4 but shows considerable variation in higher ranges depending on the nature of the two-combination it is sorted on. As for EDUC it tends to eliminate other factors than sex and age.

6. I will end this paper with a discussion in some detail of one of the few cases where the "triangle" layout of the data is not found and where, moreover, the age-combinations do not turn up at the bottom of the rank-list. I am referring to SNT, the coastal cities in Norrland, where the distribution for the six two-combinations looks as in Table 8.

	0-2.99	3-3.99	4-5.99	6-6.99	7-9.99
SEX/OCCUP	0	27	74	5	0
AGE/OCCUP	18	22	59	6	1
AGE/SEX	24	24	53	5	0
SEX/EDUC	0	53	53	0	0
AGE/EDUC	17	37	43	9	0
OCCUP/EDUC	0	61	39	6	0

Table 8. Distribution of NASDLW means for SNT.

A second oddity in the table above is the fact that the age variable does not have its normal polarizing effect: the bulk of the data is found in the left half of the table which indicates that TEEN and in particular YOUNG have lost their boosting effect in the SNT environment. However, for all we know it may be the case that the SNT population has an unusually large proportion of MID and above, and that the skewness of the table above is simply a natural consequence of that. But that is not the case. It is true that SNT has a very low proportion of TEEN (12%); what is more important, however, is that the percentage for YOUNG is 33% (as against 20% for GÖteborg and 26% for Stockholm), since YOUNG is in fact more favourably disposed towards NASDLW than TEEN. If we combine the TEEN and YOUNG categories and order the different domiciles in accordance with the percentage of the total population made up by that group, we find the order SPARSE 60%, TOWNS and MALMÖ 53%, SST 50%, SNT 45%, STHLM 43% and GBG 42%. Thus while SNT is definitely in the lower reaches of the scale, it is above both STHLM and GBG, which both show the expected distribution of means with all three age-related combinations at the bottom of the scale.

We can probe still deeper into this problem by comparing the proportions of the TEEN/YOUNG category for each of SNT, STHLM and GBG that show means of 6 or higher. We will then find that of 225 TEEN/YOUNG in Stockholm, 221 have means of 6 or more. In GÖteborg, the corresponding figures are 64 out of 132, and for SNT, finally, 7 out of 48.

It may of course still be argued that this particular distribution of means is due to other factors favouring or disfavouring the use of NASDLW; after all, we know that STUD, MALE and CS are positive in this respect, while FEM, CP and CU, WORKER, PROFESS and BUSI are

negative, and it may well be that one or several of these show skewed distributions for SNT. In order to facilitate comparison of these matters, the favourable and unfavourable factors for SNT, STHLM and GBG have been displayed in Tables 9 and 10 below.

	SNT	GBG	STHLM
MALE	44%	44%	49%
UNCLASS	8%	16%	18%
STUD	15%	26%	16%
CS	44%	37%	38%

Table 9. Distribution of NASDLW-favouring factors for SNT, GBG, and STHLM.

	SNT	GBG	STHLM
FEM	56%	56%	51%
CP	23%	42%	42%
BUSINESS	2%	8%	1%
PROFESS	40%	25%	35%
WORKER	30%	26%	27%

Table 10. Distribution of NASDLW-negative factors for SNT, GBG, and STHLM.

As the tables show, SNT is low on a positive factor like UNCLASS and high on the negative PROFESS. On the other hand, SNT is much higher than either GBG or STHLM on the positive CS, and much lower on the negative CP. The overall impression is that there are no important differences between the three types of domicile with respect to the distribution of the social variables. It appears not unreasonable, in view of this, to conclude that there exists a special "Norrland effect" which is unfavourable to the use of unassimilated direct word loans from English. By the same token, it seems safe to conclude that there is also a "Stockholm effect" working in favour of the use of such loans. It might be thought that this is an attitude typical of the big cities. However, as we have

already seen, Stockholm differs from Göteborg in this respect and resembles instead the only other big Swedish city, viz Malmö. At the same time it must be kept in mind that Malmö has a 10% higher proportion of YOUNG/TEEN than Stockholm. It would seem, therefore, that SNT and to some extent Stockholm are the only types of domicile that have an intrinsic impact on attitudes towards the use of NASDLW. In Stockholm this impact co-operates with the positive tendencies inherent in YOUNG and TEEN and boosts the means to unexpected magnitudes. SNT, on the other hand, provides us with the only example of a social factor strong enough to nullify the otherwise irresistable influence of the AGE variable.

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